

Electricity Industry Participation Code Reconciliation Participant Audit Report

For

Switch Utilities Limited



Prepared by Steve Woods – Veritek Limited

Date of Audit: 22/06/17

Audit Report Due Date: 20/07/17

Date Audit Report Complete: 18/07/17

Executive Summary

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of Switch Utilities Limited (Switch Utilities), to support their application for certification in accordance with clauses 5 and 7 of schedule 15.1.

Switch Utilities has increased their customer base considerably in the audit period and as expected they have identified some areas for improvement. 21 non-compliance issues were identified by the audit. Seven relate to switching and four relate to registry updates. The most important matters are those related to incorrect submission information, which are as follows:

1. ICP 1001136673LC11F has generation as well as load, but the generation is not submitted.
2. Over submission of HHR data occurred in January and February 2017 due to a duplication of channels issue. The over submission for January was 163,762.
3. Under submission of 5,000 kWh for April 2017 due to a daylight savings error.
4. Under submission for one day for NHH ICPs where forward default estimates are present.

Resolution of these matters is either complete or in progress.

In general, the controls in place are moderate to strong and most of the issues found had already been identified by Switch Utilities.

The breach risk rating total is 38, which results in a recommended audit frequency of 12 months.

The matters raised are shown in the tables below:

Table of Non-Compliance

Subject	Section	Clause	Non compliance	Breach risk rating	Audit History	Controls	Remedial Action
Audit trails	2.3	21 of schedule 15.2	Audit trail not complete for HHR changes.	2	None	Moderate	Identified
Changes to registry information	3.3	10 of schedule 11.1	Registry information not provided within 5 business days of change.	2	None	Moderate	Identified
Provision of registry information	3.5	9 of schedule 11.1	Some late changes to Active Some late MEP notifications.	2	None	Moderate	Identified
ANZSIC codes	3.6	9(1)(k) of schedule 11.1	3 of 20 incorrect ANZSIC codes.	2	None	Moderate	Identified

Subject	Section	Clause	Non compliance	Breach risk rating	Audit History	Controls	Remedial Action
Management of Active status	3.8	17 of schedule 11.1	One incorrect Active status.	1	None	Strong	Identified
Switching	4.2	3 of schedule 11.3	AN codes of AA used for 4 of 6 files where AD should have been used. 3 of these were TR switches.	2	None	Moderate	Identified
	4.3	5 of schedule 11.3	14 late CS files.	1	None	Strong	Identified
	4.4	Clause 6 of schedule 11.3	2 late RR files.	1	None	Strong	Identified
	4.8	10 of schedule 11.3	AN codes of AA used for 4 of 6 files where AD should have been used. 1 of these was a MI switch. 1 late AN	2	None	Moderate	Identified
	4.10	11 of schedule 11.3	11 late CS files.	2	None	Moderate	Identified
	4.14	16 of schedule 11.3	5 late CS files.	2	None	Moderate	Identified
	4.15	17 of schedule 11.3	3 late NW files.	1	None	Strong	Identified
Interrogate meters once	6.8	7(1) and 7(2) of Schedule 15.2	No process for getting meter readings during the period of supply.	3	None	Weak	Identified
AMI events	9.6	17 of schedule 15.2	AMI event information not routinely monitored. No event information from ARC.	2	None	Moderate	Identified
ICP days	11.2	15.6 of part 15	ICP days calculation inaccurate where reads are not present.	2	None	Moderate	Identified
Electricity supplied	11.3	15.7 of part 15	Electricity supplied data incorrect.	1	None	Strong	Identified

Subject	Section	Clause	Non compliance	Breach risk rating	Audit History	Controls	Remedial Action
HHR aggregates	11.4	15.8 of part 15	Aggregates file contains submission information. Incorrect totals for some ICPs due to a duplication of channels issue. One ICP had generation submitted as load and the load was not submitted.	2	None	Moderate	Identified
Daylight saving	12.1	15.36 of part 15	Incorrect daylight saving adjustment.	2	None	Moderate	Identified
Submission accuracy	12.9	2 of schedule 15.3	Incorrect submission information.	4	None	Moderate	Identified
Meter reading reports	13.1	8 and 9 of Schedule 15.2	Meter reading frequency reports were not submitted prior to June 2017.	1	None	Strong	Cleared
HE targets	13.4	10 of Schedule 15.3	Historic estimate targets were not met for all revisions.	1	None	Strong	Identified

Table of Recommendations

Subject	Section	Clause	Recommendation for Improvement	Remedial Action
			Nil	

Persons Involved in This Audit

Auditor:

Steve Woods

Veritek Limited

Electricity Authority Approved Auditor

Switch Utilities personnel assisting in this audit were:

Name	Title
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1. Pre-Audit and Operational Infrastructure Information

1.1 Summary of Previous Audit

The tables below show the issues found during the last audit. The issue with the HHR aggregates file is still with the Authority to change the Code.

Table of Non-Compliance

Subject	Section	Clause	Non compliance	Status
HHR Aggregates	5.4	15.8 of part 15	HHR aggregates file does not contain electricity supplied information.	Still existing

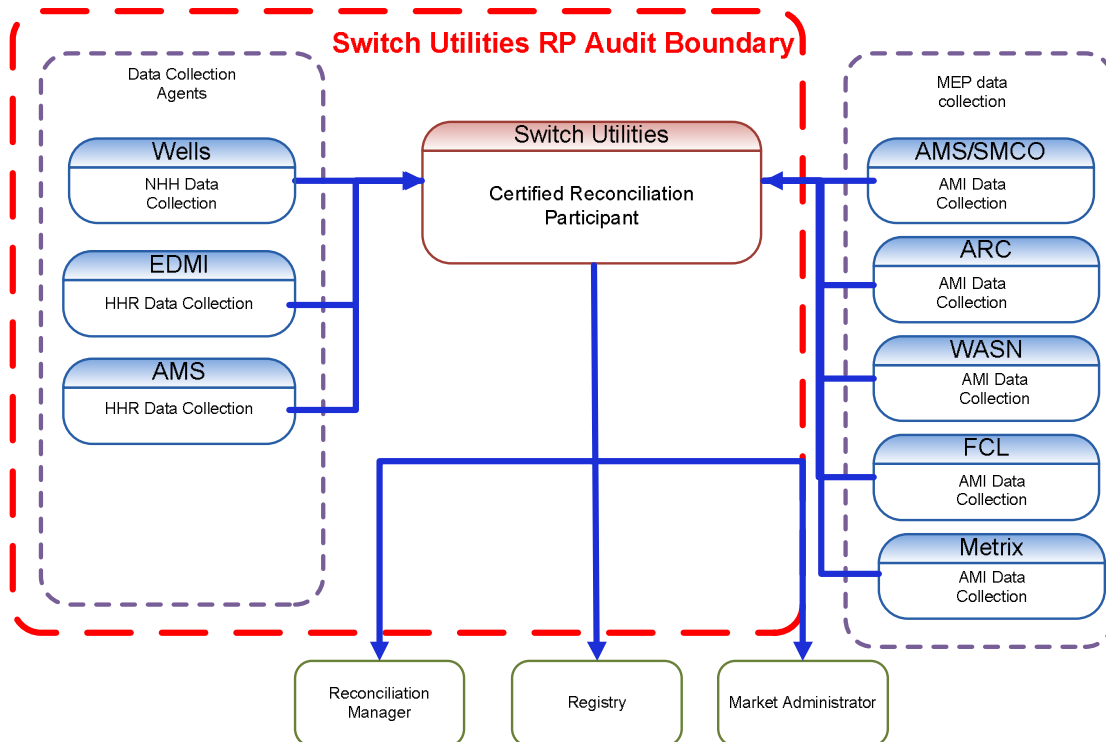
Table of Recommendations

Subject	Section	Clause	Recommendation for Improvement	Status
Recording of phase failure and broken seals	3.6.1	5 of schedule 15.2	Ensure processes are in place to identify and record phase failure and broken seals.	Resolved

1.2 Scope of Audit

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of Switch Utilities, to support their application for certification in accordance with clauses 5 and 7 of schedule 15.1.

The scope of the audit is shown in the diagram below, with the Switch Utilities audit boundary shown for clarity.



The table below shows the tasks under clause 15.38 of part 15 for which Switch Utilities require certification.

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents providing services	MEPs providing services
(a) - Maintaining registry information and performing customer and embedded generator switching		
(b) – Gathering and storing raw meter data	Wells – NHH data collection EDMI – HHR data collection AMS – HHR data collection	AMS SMCO ARC Metrix FCLM WASN
(c)(iii) - Creation and management of HHR and NHH volume information	Wells – NHH data collection EDMI – HHR data collection AMS – HHR data collection	AMS SMCO ARC Metrix FCLM WASN
(d) – Calculation of ICP days		
(da) - delivery of electricity supplied information under clause 15.7		
(db) - delivery of information from retailer and direct purchaser half hourly metered ICPs under clause 15.8		
(e) – Provision of submission information for reconciliation		

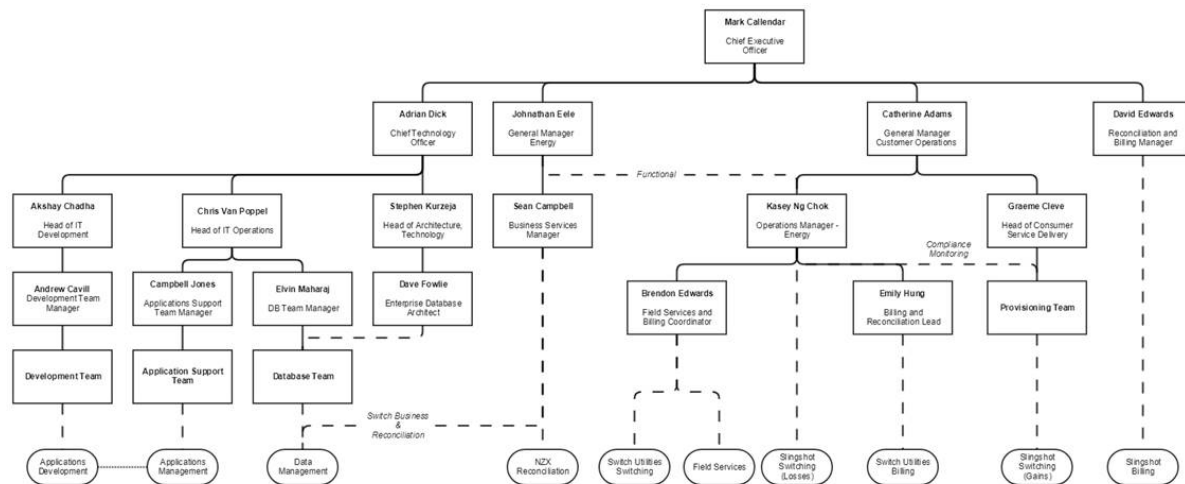
1.3 Exemptions From Obligations to Comply With Code (Section 11 of Electricity Industry Act 2010)

Section 11 of the Electricity Industry Act provides for the Electricity Authority to exempt any participant from compliance with all or any of the clauses.

Switch Utilities do not have any current exemptions.

1.4 Organisation Structure

Switch Utilities has provided an organisation chart of the relevant part of their structure, which is shown below.



1.5 Use of Agents (Clause 15.34 of Part 15)

A reconciliation participant who has obligations under this Part may discharge those obligations by way of an agent. A reconciliation participant who utilises an agent to discharge an obligation under this Code remains responsible and liable for, and is not in any way released from, that obligation. A reconciliation participant must not assert, against anyone, that it is not responsible or liable for its obligations because the reconciliation participant's agent has done or not done something or has failed to meet a relevant standard.

Switch Utilities has engaged the agents listed in the audit scope section. They understand their obligations and all functions conducted by agents have been subject to audit. Compliance is confirmed.

1.6 Hardware and Software

Switch Utilities has a suite of bespoke systems as follows:

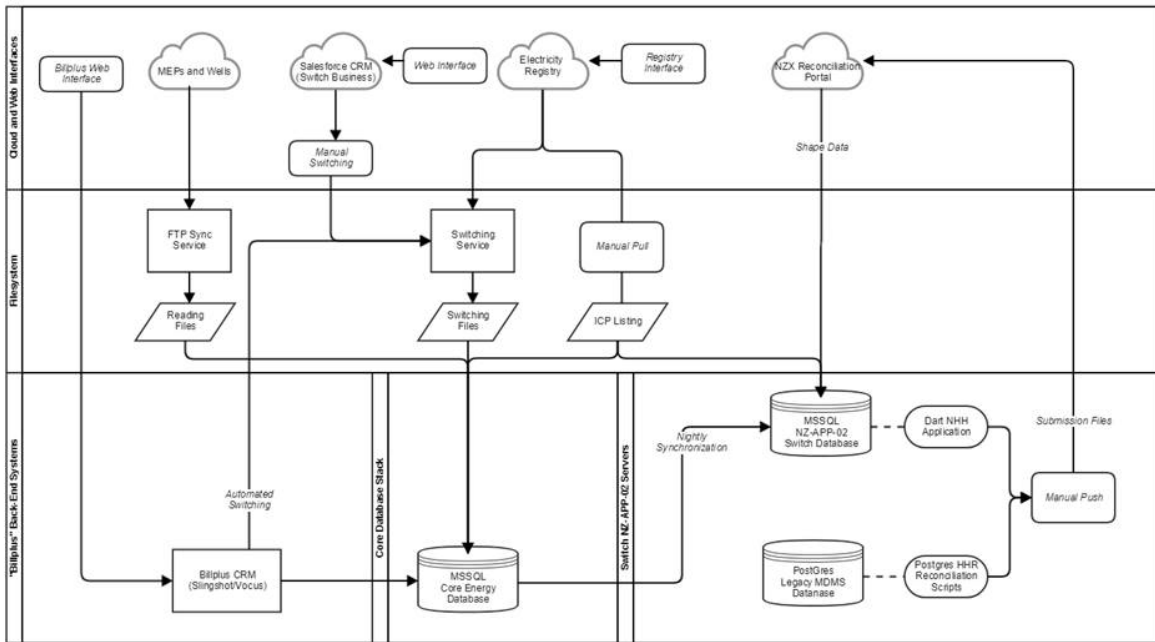
Data management system (DRS)

NHH reconciliation system (DART)

Access based HHR reconciliation system (HHR database).

The CRM is Salesforce.

Backup arrangements are in accordance with standard industry protocols. A system diagram is shown below.



1.7 Breaches or Breach Allegations

There are no breach allegations recorded by the Authority.

1.8 ICP Data

Switch Utilities provided a list file as at June 2017. The table below shows ICPs by status.

ICP Status	Number of ICPs 2017
Active (2)	3,580
Inactive- new connection in progress (1,12)	1
Inactive- de-energised remotely by AML meter (1, 7)	0
Inactive – disconnected at meter box (1,11)	0
Inactive – vacant (1,4)	1
Inactive- reconciled elsewhere (1,5)	0
Inactive – ready for decommissioning (1,6)	0
Inactive – disconnected at pole fuse (1, 8)	0
Inactive – de-energised due to meter disconnected (1, 9)	0
Decommissioned (3)	21

The active ICPs were examined. This list is summarised by Metering Category in the table below.

Category	2017
1	3,287
2	236
3	44
4	11
5	52
9	1
Blank	1

1.9 Authorisation Received

A letter of authorisation was not required or sought.

2. Operational Infrastructure

2.1 Relevant Information (Clause 10.6 of Part 10 & Clause 11.2 of Part 11 & 15.2 of Part 15)

A participant must take all practicable steps to ensure that information that the participant is required to provide to any person under Part 15 is:

- (a) complete and accurate*
- (b) not misleading or deceptive*
- (c) not likely to mislead or deceive.*

If the participant becomes aware that in providing information under this Part, the participant has not complied with that obligation, the participant must, as soon as practicable, provide such further information as is necessary to ensure that the participant does comply.

Audit Observation

The process to find and correct incorrect information was examined. The list file was examined to confirm that all information was correct and not misleading, and to identify any registry discrepancies. The registry validation process was examined in detail in relation to the achievement of this requirement.

Audit Commentary

The audit found several examples where corrections were required and they were all conducted as soon as practicable. Compliance is confirmed.

2.2 Provision of Information (Clause 15.35)

If an obligation exists to provide information in accordance with Part 15, a participant must deliver that information to the required person within the timeframe specified in the Code, or, in the absence of any such timeframe, within any timeframe notified by the Authority. Such information must be delivered in the format determined from time to time by the Authority.

Audit Observation

Processes to provide information were reviewed and observed throughout the audit.

Audit Commentary

This area is discussed in a number of sections in this report and compliance is confirmed with regard to timeliness and format of information in accordance with Part 15.

2.3 Data Transmission (Clause 20 of Schedule 15.2)

Transmissions and transfers of data related to metering information between reconciliation participants or their agents, for the purposes of the Code, must be carried out electronically using systems that ensure the security and integrity of the data transmitted and received.

Audit Observation

I observed the relevant SFTP folders for each agent and MEP, and traced five reads from each through to SAP.

Audit Commentary

All HHR data and NHH data is provided by SFTP and the checks mentioned above confirmed compliance.

2.4 Audit Trails (Clause 21 of Schedule 15.2)

Each reconciliation participant must ensure that a complete audit trail exists for all data gathering, validation, and processing functions of the reconciliation participant.

The audit trail must include details of information:

- provided to and received from the registry
- provided to and received from the reconciliation manager
- provided and received from other reconciliation participants and their agents.

The logs must include (at a minimum) the following:

- an activity identifier (clause 21(4)(a))
- the date and time of the activity (clause 21(4)(b))
- the operator identifier (clause 21(4)(c)).

Audit Observation

A complete audit trail was checked for all data gathering, validation and processing functions. I reviewed audit trails for a small sample of events. Large samples were not necessary because audit trail fields are expected to be the same for every transaction of the same type.

Audit Commentary

A complete audit trail was viewed for all NHH data gathering, validation and processing functions. The logs of these activities for all agents include the activity identifier, date and time and an operator identifier. The audit trail in the HHR area at Switch Utilities is still being developed and is not yet compliant for any alterations to HHR data. This is recorded as non-compliance.

Non-compliance	Description	
<p>With: Clause 21 of schedule 15.2</p> <p>From/to: 19/07/16 to 18/07/17</p>	<p>Audit trail not complete for HHR changes.</p> <p>Potential impact: Medium</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Moderate</p> <p>Breach Risk Rating: 2</p>	
Audit Risk Rating	Rationale for audit risk rating	
Low	The impact on settlement is potentially minor, therefore the audit risk rating is low.	
Actions taken to resolve the issue	Completion date	Remedial action Status
<p>The majority of systems related to our reconciliation participation have been rebuilt after the purchase of Switch Utilities by the Vocus Group. The half-hour reconciliation system is the one major remaining system affecting certification which has not yet been rebuilt.</p> <p>A project is underway, currently at the scoping stage, to rebuild the half-hourly reconciliation system and to integrate it within the shared services back-end energy database and related systems. As a part of this project, improved audit trail functionality will be included.</p> <p>We will organise a material change audit at the time of release to confirm that the system fully complies with all audit trail and other regulatory obligations.</p>	Targeted for end of 2017.	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	

2.5 Retailer Responsibility for Electricity Conveyed - Participant Obligations (Clause 10.4)

If a participant must obtain a consumer's consent, approval, or authorisation, the participant must ensure it:

- extends to the full term of the arrangement
- covers any participants who may need to rely on that consent.

Audit Observation

I reviewed Switch Utilities' current terms and conditions.

Audit Commentary

The terms and conditions include arrangements for meter access and shutdowns, and these clauses extend to agents. Compliance is confirmed.

2.6 Retailer Responsibility for Electricity Conveyed - Access to Metering Installations (Clause 10.7(2),(4),(5) and (6))

The responsible reconciliation participant must, if requested, arrange access for the metering installation to the following parties:

- the Authority
- an ATH
- an auditor
- an MEP
- a gaining metering equipment provider.

Audit Observation

I reviewed Switch Utilities' current terms and conditions, and discussed compliance with these clauses.

Audit Commentary

Switch Utilities' contract with their customers includes consent to access for authorised parties for the duration of the contract. Switch Utilities confirmed that they have been able to arrange access for other parties when requested. This was observed with the meter reading process and with the field services process. Compliance is confirmed.

2.7 Physical Location of Metering Installations (Clause 10.35(1)&(2))

A reconciliation participant responsible for ensuring there is a category 1 metering installation or category 2 metering installation must ensure that the metering installation is located as physically close to a point of connection as practical in the circumstances.

A reconciliation participant responsible for ensuring there is a category 3 or higher metering installation must:

- (a) if practical in the circumstances, ensure that the metering installation is located at a point of connection; or*
- (b) if it is not practical in the circumstances to locate the metering installation at the point of connection, calculate the quantity of electricity conveyed through the point of connection using a loss compensation process approved by the certifying ATH.*

Audit Observation

A discussion was held regarding knowledge of any ICPs with loss compensation present. The presence of loss compensation factors was also checked by examining multipliers for a sample of five large ICPs.

Audit Commentary

Switch Utilities is not responsible for any metering installations with loss compensation factors.

2.8 Trader Contracts to Permit Assignment by the Authority (Clause 11.15B of Part 11)

A trader must at all times ensure that the terms of each contract between a customer and a trader permit the Authority to assign the rights and obligations of the trader under the contract to another trader if the trader commits an event of default

Audit Observation

I reviewed Switch Utilities' current terms and conditions.

Audit Commentary

Switch Utilities' terms and conditions contain the appropriate clauses to achieve compliance with this requirement. Compliance is confirmed

2.9 Electrical Connection of an ICP (Clause 10.32)

A reconciliation participant must only request electrical connection of a point of connection if they:

- *accept responsibility for the ICP and the obligations under Parts 10 and 11, and, under Part 15; and*
- *have an arrangement with an MEP to provide metering at the point of connection under Part 15.*

Audit Observation

The new connection process was examined in detail to evaluate the strength of controls. The list file and event detail report for the six months from 01/10/16 to 31/05/17 were analysed to confirm process compliance and that controls are functioning as expected.

Audit Commentary

The new connection process is compliant and contains a step for Switch Utilities to accept responsibility. I checked all seven new connections and in all cases, Switch Utilities had accepted responsibility.

Switch Utilities has arrangements in place with all MEPs, either a signed contract or an exchange of correspondence confirming an "arrangement" to provide services while the contract is being finalised. The list file contained one ICP where the metering category was "blank". The ICP is 0000156471CKD5A and it is intended this will become a "virtual" gate meter ICP (the concept has been discussed with the Authority) and should be at status "inactive, new connection in progress" until the details have been finalised and set-up is complete. This is discussed further in Section 3.8. Compliance is confirmed for this clause.

2.10 Metering Certification (Clause 10.33(2))

A reconciliation participant may energise or authorise the energisation of a connection only if the reconciliation participant has accepted responsibility for the point of connection if one or more certified metering installations are in place.

Audit Observation

The new connection process was examined in detail. The list file as at June 2017 and event detail report for the period October 2016 - May 2017 were analysed.

Audit Commentary

Switch Utilities had accepted responsibility for all newly energised ICPs and the analysis confirms that there were no ICPs energised without certified metering installations. Compliance is confirmed.

2.11 Arrangements for Line Function Services (Clause 11.16)

A reconciliation participant must ensure it has an arrangement with the relevant network prior to accepting responsibility for an installation.

Audit Observation

The process to ensure an arrangement is in place before trading commences on a Network was examined.

Audit Commentary

Switch Utilities demonstrated the existence of either a UoSA or other trading arrangement for all networks. Compliance is confirmed.

2.12 Arrangements for Metering Equipment Provision (Clause 10.36)

A reconciliation participant must ensure it has an arrangement with the relevant MEP prior to accepting responsibility for an installation.

Audit Observation

The process to ensure an arrangement is in place with the metering equipment provider before an ICP is created or switched in was checked.

Audit Commentary

Switch Utilities has an arrangement in place with all MEPs that manage metering in relation to their customer base. The new connection process also contains a step that requires nomination of an MEP. MEP MN rejections are monitored to ensure correction occurs if the incorrect MEP is nominated. There were no nomination rejections during the audit period. Compliance is confirmed.

3. Maintaining Registry Information

3.1 Obtaining ICP Identifiers (Clause 11.3 of Part 11)

The following participants must obtain an ICP identifier for any point of connection, as defined in clause 11.3(3) of part 11, to any local network or embedded network:

- a. a trader who has agreed to purchase electricity from an embedded generator or sell electricity to a consumer*
- b. an embedded generator who sells electricity directly to the clearing manager*
- c. a direct purchaser connected to a local network or an embedded network*
- d. an embedded network owner in relation to a point of connection on an embedded network that is settled by differencing*
- e. a network owner in relation to a shared unmetered load point of connection to the network owner's network*
- f. a network owner in relation to a point of connection between the network owner's network and an embedded network.*

Audit Observation

The "new connections" process was examined in detail to confirm compliance with the requirement to obtain ICP identifiers for points of connection to local or embedded networks.

Audit Commentary

A walkthrough of the process confirmed that this requirement is well understood and managed by Switch Utilities. There were no connections to networks identified without ICPs. Compliance is confirmed.

3.2 Provision of Information to the Registry (Clause 11.7(2))

Each trader must provide information to the registry about each ICP at which it trades electricity in accordance with Schedule 11.1.

Audit Observation

The new connection process was examined in detail. The list file was analysed in conjunction with the event detail report for the audit period to evaluate the updating of the registry in relation to new connections. This clause links directly to Section 3.5 below. The findings for the accuracy and timeliness of updates is detailed there.

Audit Commentary

This clause links directly to Section 3.5 below. The findings for the accuracy and timeliness of updates is detailed there

3.3 Changes to Registry Information (Clause 10 Schedule 11.1)

If information provided by a trader to the registry about an ICP changes, the trader must notify the registry of the change no later than five business days after the change.

Audit Observation

The event detail report was analysed for the period of October 2016 to May 2017 to identify late registry updates for status changes. A selection of late updates for all changes was evaluated.

Audit Commentary

The tables below show the level of compliance for changes to Active and Inactive.

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Change to active - Reconnections	2017	15	10	5	16.6	67%
Change to de-energised – all statuses except new connection in progress and ready for decommissioning	2017	0	0	0	N/A	N/A
Change to de-energised ready for decommissioning	2017	0	0	0	N/A	N/A
Change to de-energised new connection in progress	2017	1	1	0	1	100%

The late updates to Active were all examined and they were all as a result of processing errors.

Non-compliance	Description	
<p>With: Clause 10 of schedule 11.1</p> <p>From/to: 07/04/17 to 24/05/17</p>	<p>Registry information not provided within 5 business days of change.</p> <p>Potential impact: Medium</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Moderate</p> <p>Breach Risk Rating: 2</p>	
Audit Risk Rating	Rationale for audit risk rating	
Low	<p>Status changes can have a minor impact on settlement outcomes if consumption information is provided based on the registry status and then needs to be corrected.</p> <p>Market participants can be affected if a switch out occurs for an ICP with the incorrect status.</p> <p>Customers can be affected if invoicing is based on the incorrect ICP status.</p>	
Actions taken to resolve the issue	Completion date	Remedial action Status

The non-compliance was caused by an inadequate understanding of the processes, additional processes and documentation has been developed.	Cleared	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
We are separately in the process of building compliance monitoring reporting which will identify non-conformances and potential non-conformances so that action can be taken to resolve.	01/08/2017	

3.4 Trader Responsibility for an ICP (Clause 11.18)

A trader ceases to be responsible for an ICP if another trader accepts responsibility in the registry; the ICP is decommissioned. If decommissioning an ICP, the trader must ensure that a final meter interrogation takes place, and that the MEP is notified.

Audit Observation

Retailers Responsibility to Nominate and Record MEP in the Registry

The new connection process was discussed and the list file, as at June 2017, was examined to identify that all active ICPs have an MEP recorded. This analysis found one active ICP that does not have an MEP recorded in the registry.

ICP Decommissioning

The process for the decommissioning of ICPs was examined. There were no examples during the audit period, so the audit relied on process documentation to evaluate compliance.

Audit Commentary

Retailers Responsibility to Nominate and Record MEP in the Registry

The one ICP with no MEP recorded in the registry was examined and the ICP should not have an active status yet. This is discussed in Sections 2.9 and 3.8.

MEP rejections are monitored and there have not been any during the audit period. Compliance is confirmed.

ICP Decommissioning

Switch Utilities continues with their obligations under this clause. ICPs that are vacant and active, or inactive are still maintained in the database.

No ICPs were decommissioned during the audit period. Compliance is confirmed for the process documentation.

3.5 Provision of Information to the Registry (Clause 9 Schedule 11.1)

The content of files provided to the registry contains the information set out in clause 9 of schedule 11.1.

Audit Observation

The new connection process was examined in detail. The list file was analysed in conjunction with the event detail report for the period from October 2016 to May 2017 to evaluate the updating of the registry in relation to new connections. I used the extreme case methodology examining all four ICPs that were updated greater than five business days from the event date. I checked all three late MEP nominations. I checked all registry records for possible discrepancies, using a standard set of queries.

Audit Commentary

The table below shows that four ICPs were updated late to the registry. Late field notification was the cause for two, and incorrect ready dates by the distributor caused the other two. The MEP was nominated late for all four late new connections. All active dates were correct for new connections.

Event	Year	Total ICPs	ICPs Notified Within 5 Days	ICPs Notified Greater Than 5 Days	Average Notification Days	Percentage Compliant
Change to active - New connections	2017	8	4	4	6.6	50%

There were three late MEP nominations that were not new connections. One was due to an incorrect decommissioning event and two were due to late notification from the field.

Analysis of the list file found the following issues:

- One ANZSIC code was T994 (don't know). Switch genuinely did not know at the time, but further investigation has determined a code and the registry was updated during the audit.
- ICP 0426505034LC22D is Category 3 on the registry but submission is NHH. It has 300/5 CTs so is likely to be Category 2. This matter has been raised with the MEP.

Non-compliance is recorded for the late registry updates.

Non-compliance	Description	
<p>With: Clause 9 of schedule 11.1</p> <p>From/to: 12/01/17 to 30/05/17</p>	<p>Some late changes to Active. Some late MEP notifications.</p> <p>Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach Risk Rating: 2</p>	
Audit Risk Rating	Rationale for audit risk rating	
Low	<p>The controls are rated as moderate because there are some improvements that can be made to them to ensure the timeliness of updates once is improved.</p> <p>The audit risk rating is low, because the impact on submission information is low. Late changes to Active can mean submission information is not provided at the earliest opportunity. Billing will also be delayed for some ICPs.</p>	
Actions taken to resolve the issue	Completion date	Remedial action Status
The non-compliance was caused by an inadequate understanding of the processes, additional processes and documentation has been developed.	Cleared	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
We are separately in the process of building compliance monitoring reporting which will identify non-conformances and potential non-conformances so that action can be taken to resolve.	01/08/2017	

3.6 ANZSIC Codes (Clause 9 (1(k) of Schedule 11.1)

Traders must populate the relevant ANZSIC code for all ICPs for which they are responsible.

Audit Observation

The process to capture and manage ANZSIC codes was examined. A Registry List file was reviewed to check ANZSIC codes. Google streetview was examined for 20 ICPs.

Audit Commentary

The list file was analysed and I found the following issues:

- one ICP with code T994 “Don’t know” which has now been updated
- ten ICPs with residential codes appeared correct according to streetview
- three of ten non-residential codes appeared incorrect according to streetview.

The controls in place include a check between the registry and SAP, plus a check between business class and ANZSIC code. By the time of the on-site audit the quantity of ANZSIC code errors identified by Switch Utilities was down to under 10.

Non-compliance	Description	
<p>With: Clause 9(1)(k) of schedule 11.1</p> <p>From/to: Entire audit period</p>	<p>3 of 20 incorrect ANZSIC codes.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Moderate</p> <p>Breach Risk Rating: 2</p>	
Audit Risk Rating	Rationale for audit risk rating	
Low	<p>There is an improvement opportunity for the controls in place to ensure codes are correct.</p> <p>There is no impact on settlement outcomes from incorrect ANZSIC codes but there is a low impact on the Electricity's reporting accuracy, therefore the audit risk rating is low.</p>	
Actions taken to resolve the issue	Completion date	Remedial action Status
We have identified that a user loading the ANZSIC codes required additional training and we have provided further guidance to that user.	Cleared	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
<p>An item has been added to the development plan for the Switchsaver application used by the Vocus Group for business related signups to collect the ANZSIC code from the salesperson at point of sale, who has a better understanding of the usage, rather than relying on the switching agent to determine the ANZSIC code.</p> <p>Compliance monitoring will be added to flag sites on a T9XXX code so that these can be double-checked by a second person to ensure no code can be determined.</p>	01/12/2017	

3.7 Changes to Unmetered Load (Clause 9(1)(f) of Schedule 11.1)

Traders must populate the unmetered load details for all ICPs with unmetered load for which they are responsible.

Audit Observation

The process to manage unmetered load was examined. The list file as at June 2017 was examined to identify any ICPs where:

- Unmetered load is identified by the Distributor but none is recorded by Switch Utilities
- Switch Utilities' unmetered load figure doesn't match with the Distributor's figure (where it's possible to calculate this if the Distributor is using the recommended format) and the variance

is greater than 1.0kWh per day. 1.0 kWh per day was chosen as a sample only; this does not indicate compliance is achieved if an error is found that is less than 1.0 kWh per day.

Audit Commentary

Two ICPs have unmetered load. No changes have been made to any unmetered details during the audit period. The daily unmetered load figure matches the distributor’s figure for one ICP. The distributor has not populated their figure for the other ICP, but there is no suggestion it is incorrect. Compliance is confirmed.

3.8 Management of “Active” Status (Clause 17 Schedule 11.1)

Before being given an “Active” status the retailer is required to ensure that the ICP has only one customer, embedded generator, or direct purchaser; and that the electricity consumed is quantified by a metering installation(s) or other approved method of calculation.

Audit Observation

The new connection process was examined in detail as discussed in Sections 2.9 & 3.5 above. The list file as at June 2017 was examined to identify any ICPs still at the status “Inactive - new connection in progress” with an initial energisation date populated.

The process for the management of ICP reconnection was examined. The event detail report for the audit period was analysed and the findings in relation to the timeliness of updates to registry is recorded in **Section 3.3 Changes to registry information**.

Audit Commentary

The status of an ICP is only changed to “Active” once confirmation has been received by a contractor. Submission information is provided for all “Active” ICPs, even if they are vacant.

Before being given an “Active” status the trader is required to ensure that the ICP has only one customer, embedded generator, or direct purchaser; and that the electricity consumed is quantified by a metering installation(s) or other Authority approved method of calculation. The database will not allow more than one party per ICP nor will it allow an ICP to be set up without either a meter or if it is unmetered, the daily kWh.

As mentioned in Section 3.4, one ICP had an incorrect active status; it should have been inactive, new connection in progress, not active. This was the only matter found.

Non-compliance	Description
<p>With: Clause 17 of schedule 11.1</p> <p>From/to: 02/06/17 to 18/07/17</p>	<p>One incorrect Active status.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Strong</p> <p>Breach Risk Rating: 1</p>

Audit Risk Rating	Rationale for audit risk rating	
Low	<p>The controls are rated as strong because this was an unusual circumstance and was a one-off issue.</p> <p>The audit risk rating is low, because there is no impact on settlement.</p>	
Actions taken to resolve the issue	Completion date	Remedial action Status
As noted, this was an unusual exception caused by human error and a misunderstanding of the paperwork. No further action has been identified which could reduce the risk of error further for this scenario.	Cleared	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	

3.9 Management of “Inactive” Status (Clause 19 Schedule 11.1)

The ICP status of “inactive” must be managed by the relevant trader and indicates that:

- electricity cannot flow at that ICP; or
- submission information related to the ICP is not required by the reconciliation manager for the purpose of compiling reconciliation information.

Audit Observation

An event detail report for the period of October 2016 to May 2017 was reviewed, to identify all changes to inactive during that period.

The inactive status of “new connections in progress” was examined for new connections. The list file was examined to identify any ICPs that had been at the “Inactive- new connection in progress” for greater than 24 months.

The process to manage ICPs at the other inactive statuses was examined by conducting a walk-through of the process. The findings in relation to the timeliness of updates to registry is recorded in Section 3.3 Changes to registry information.

Audit Commentary

There was one change to de-energised, new connection in progress but no other inactive changes. The one change was conducted correctly. No ICPs show as disconnected in the database so I’ve concluded compliance is achieved.

3.10 ICPs at New or Ready Status for 24 months (Clause 15 Schedule 11.1)

If an ICP has had the status of “New” or “Ready” for 24 calendar months or more, the distributor must ask the trader whether it should continue to have that status, and must decommission the ICP if the trader advises the ICP should not continue to have that status.

Audit Observation

Whilst this is a Distributor's code obligation, I investigated whether any queries had been received from Distributors in relation to ICPs at the "New" or "Ready" status for more than 24 months and what process is in place to manage and respond to such requests.

Audit Commentary

Switch Utilities does not have reporting in relation to this clause, however there is no evidence of non-compliance.

3.11 Change of MEP (Clause 10.22(1)(a)(i))

If the MEP for an ICP which is not also an NSP changes, the trader must notify the registry of the gaining MEP in accordance with Part 11.

Audit Observation

The process to manage a change of MEP on an existing ICP was examined. The accuracy and timeliness of these being updated on the registry is recorded in Section 3.3 above.

Audit Commentary

Compliance is discussed in Section 3.3. This clause does not place a responsibility on Switch Utilities; it only states that the MEP changes once Switch Utilities has advised the registry. Registry advice is covered by Part 11.

4. Performing Customer and Embedded Generator Switching

Switch Utilities may use marketing strategies in future which require compliance with the requirements of the Section 36M of the Fair Trading Act 1986. The process documentation recognises the requirements of this Act and includes a step of notifying the customer of the period within which the agreement may be cancelled.

NHH Standard Switching

4.1 Inform Registry of Switch Request for ICPs (Clause 2 of Schedule 11.3)

The standard switch process applies where a trader and a customer or embedded generator enters into an arrangement in which the trader commences trading electricity with the customer or embedded generator at a non-half hour or unmetered ICP at which another trader supplies electricity, or the trader assumes responsibility for such an ICP.

If the uninvited direct sale agreement applies to an arrangement described above, the gaining trader must identify the period within which the customer or embedded generator may cancel the arrangement in accordance with section 36M of the Fair Trading Act 1986. The arrangement is deemed to come into effect on the day after the expiry of that period.

A gaining trader must advise the registry of a switch no later than two business days after the arrangement comes into effect and include in its advice to the registry that the switch type is TR and one or more profile codes associated with that ICP.

Audit Observation

The switch gain process was examined to determine when Switch Utilities deems all conditions to be met. A sample of five ICPs using the typical sampling methodology was checked to confirm that these were notified to the registry within two business days.

Audit Commentary

All NT files were sent within two business days of conditions being met. Compliance is confirmed.

4.2 Losing Trader Response to Switch Request (Clauses 3 & 4 of Schedule 11.3)

Within three business days after receipt of notification of a switch from the registry, the losing trader must establish a proposed event date. The event date must be no more than 10 business days after the date of receipt of such notification, and in any 12 month period, at least 50% of the event dates must be no more than five business days after the date of notification.

The losing trader must then provide acknowledgement of the switch request by providing the proposed event date to the registry and a valid switch response code; or providing a request for withdrawal.

Audit Observation

An event detail report for the audit period was reviewed, to identify AN files issued by Switch Utilities during the audit period. A sample of six ANs per response code were reviewed to determine whether the codes had been correctly applied.

The switch breach detail report was examined for the audit period.

The event detail report was analysed to assess compliance with the requirement to meet the setting of event dates requirement.

Audit Commentary

The switching process was examined in relation to Switch Utilities as the “losing trader” for a sample of 12 NHH ICPs. Four of six files with the AA code should have had the AD code. All six AD codes checked were correct.

The switch breach report for the audit period recorded was examined. All AN files were sent on time. Compliance is confirmed.

Event dates set by the losing trader must be within 10 business days of receipt of a NT file. Over a 12 month period 50% of event dates must be within five business days.

The event detail report contained 4,063 transfer switches. Two had an event date between five and ten days. None were over ten days. Based on this evidence, Switch Utilities is likely to achieve compliance

with the requirement to ensure 50% of event dates are within five business days. Compliance is confirmed.

Non-compliance	Description	
<p>With: Clause 3 of schedule 11.3</p> <p>From/to: 27/02/17 to 22/05/17</p>	<p>AN codes of AA used for 4 of 6 files where AD should have been used. 3 of these were TR switches.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Moderate</p> <p>Breach Risk Rating: 2</p>	
Audit Risk Rating	Rationale for audit risk rating	
Low	<p>The controls are rated as moderate because there is room for improvement</p> <p>There is no impact on settlement or on other participants because the AD code is not used for decision making. The presence of advanced metering is determined by checking the registry.</p> <p>The audit risk rating is therefore low.</p>	
Actions taken to resolve the issue	Completion date	Remedial action Status
We have identified that a switching agent had an inadequate understanding of the usage of the AN response codes, although the processes clearly set out the use cases. Additional training has been provided to that agent.	Cleared	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
We have a project underway to automate the creation of the switch loss acknowledgements which will determine the AN response codes systematically based on the ICP configuration and state, which will reduce the likelihood of such human error.	01/10/2017	

4.3 Losing Trader Must Provide Final Information (Clause 5 of Schedule 11.3)

If the losing trader provides information to the registry in accordance with clause 3(a) of Schedule 11.3 with the required information, no later than five business days after the event date, the losing trader must complete the switch by providing a CS file.

Audit Observation

An event detail report for the audit period was reviewed, to identify CS files issued by Switch Utilities during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of five records. The content checked included:

- correct identification of meter readings and correct date of last meter reading
- accuracy of meter readings
- accuracy of average daily consumption (this is based on the most recent read to read consumption).

I checked a further 10 ICPs where the average daily consumption was zero and five ICPs where the average daily consumption was over 200 kWh.

The process to manage the sending of the CS file within five business days of the event date was examined.

The switch breach history report for the audit period was reviewed to identify late CS files.

Audit Commentary

The accuracy of the content of CS files was confirmed by checking a sample. The content checked included:

- correct identification of meter readings and correct date of meter readings for all NHH and Cat 1 & 2 AMI sites.
- accuracy of meter readings
- accuracy of average daily consumption (this is based on the most recent invoice divided by number of days).

Compliance is confirmed for the file content, including the 15 ICPs where average daily consumption was evaluated.

The switch breach report contained 14 late files. Monitoring of the daily switch breach report is in place, but it is inaccurate with regard to CS files.

Non-compliance	Description	
<p>With: Clause 5 of schedule 11.3</p> <p>From/to: 22/03/17 to 10/04/17</p>	<p>14 late CS files.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Strong</p> <p>Breach Risk Rating: 1</p>	
Audit Risk Rating	Rationale for audit risk rating	
Low	The controls are strong and 10 files were only late by one day, therefore the impact on settlement outcomes is minor.	
Actions taken to resolve the issue	Completion date	Remedial action Status

<p>The switch breaches occurred due to the switching agent previously having a misunderstanding in relation to the event date vs CS creation date timing. The switching agent was always providing the gaining retailer the ICP as at their proposed event date for transfer switches in much the same way as a move switch, but in some cases the switching was delayed due to the significant system changes that were occurring earlier in 2017.</p> <p>This process issue was identified earlier in 2017, prior to the audit, and further training was provided at this time. Since that time, compliance has been achieved.</p> <p>This issue was exacerbated by the fact the Electricity Breach report provides easily misunderstood compliance timers which is a known industry issue.</p>		Identified
<p>Preventative actions taken to ensure no further issues will occur</p>	<p>Completion date</p>	
<p>This process issue was identified earlier in 2017, prior to the audit, and further training was provided at this time. Since that time, compliance has been achieved.</p> <p>A project is underway to automate the switch-losses systematically so that the risk of human error is removed.</p>	<p>01/10/2017</p>	

4.4 Retailers Must Use Same Reading (Clause 6 & 6A Of Schedule 11.3)

If the validated meter reading or permanent estimate provided by the losing trader differs by less than 200 kWh from a value established by the gaining trader for a Transfer Switch event, the gaining trader uses the losing trader's validated meter reading or permanent estimate as the switch event meter reading.

Audit Observation

The process for the management of read requests was examined.

The event detail report and switch breach report were analysed to identify all read change requests and acknowledgements during the audit period.

A sample of ten read change requests from the event detail report was selected using the diverse sample methodology. Switch Utilities did not reject any RR files during the audit period.

One Switch Utilities RR file was rejected. I examined this to determine reasons.

Audit Commentary

In cases where Switch Utilities is the gaining trader and they dispute the switch meter reading because the validated meter reading or permanent estimate provided by the losing trader differs by 200 kWh or more the retailer, within four calendar months of the actual event date they attempt to provide to the

losing trader a changed switch meter reading supported by two validated meter readings as required by this clause.

The “switch breach report” recorded two late RR files. These were both late because the incorrect switch read was not identified until estimates were replaced with actuals several months after the switch date. The content of RR files is compliant.

The one rejected RR was between Switch Utilities and the participant acting on their behalf when they were a type 2 retailer. The proposed change of reading had no impact so it was rejected.

The late sending of some RR files is recorded as non-compliance below.

Non-compliance	Description	
<p>With: Clause 6 of schedule 11.3</p> <p>From/to: 03/04/07 to 24/04/17</p>	<p>2 late RR files.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Strong</p> <p>Breach Risk Rating: 1</p>	
Audit Risk Rating	Rationale for audit risk rating	
Low	The controls are strong and the main issue leading to late files is lack of meter readings, which is a different process. The impact on settlement is minor because the number of ICPs is low, therefore the audit risk rating is low.	
Actions taken to resolve the issue	Completion date	Remedial action Status
<p>In the circumstance, Switch believes that it was in the best interests of the customer and all participants involved to replace the read late in order to better comply with its obligations to ensure that complete and accurate information is provided which impacts the reconciliation process.</p> <p>Switch does not believe any further action can be taken here given that circumstances.</p>	Cleared	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	

4.5 NHH Switch Event Meter Reading (Clause 6(2) and (3) Schedule 11.3)

If the losing trader trades electricity from a non-half hour meter, with a switch event meter reading that is not from an AMI certified meter flagged Y on the registry: and

- the gaining trader will trade electricity from a meter with a half hour submission type in the registry;*
- the gaining trader within five business days after receiving final information from the registry, may provide the losing trader with a switch event meter reading from that meter. The losing trader must use that switch event meter reading.*

Audit Observation

The process for the management of read requests was examined. The event detail report and switch breach report were analysed. There was only one RR file sent by a HHR trader and I examined this.

Audit Commentary

The RR file was accepted. Compliance is confirmed.

4.6 Disputes (Clause 7 of Schedule 11.3 & Clause 15.29 of Part 15)

A losing trader or gaining trader may notify the other that it disputes a switch event meter reading, notified under clauses 1 to 6. Such a dispute must be resolved in accordance with clause 15.29.

Audit Observation

Confirm with Switch Utilities whether any disputes have needed to be resolved in accordance with this clause.

Audit Commentary

Switch Utilities confirms that no disputes have needed to be resolved in accordance with this clause.

NHH Switch Move

4.7 Gaining Trader Informs Registry of Switch Request (Clause 9 of Schedule 11.3)

The code requires that “for each ICP, to which a switch relates, the gaining trader must advise the registry of the switch no later than two business days after the arrangement with the customer or embedded generator comes into effect.”

Audit Observation

The switch gain process was examined to determine when Switch Utilities deems all conditions to be met. A sample of five ICPs using the typical sampling methodology was checked to confirm that these were notified to the registry within two business days.

Audit Commentary

All NT files were sent within two business days of conditions being met. Compliance is confirmed.

4.8 Losing Trader Provides Information (Clause 10 of Schedule 11.3)

After receiving notification of a switch request from the registry, the losing trader must respond to the switch request within five business days.

Audit Observation

An event detail report for the period October 2016 to May 2017 was reviewed, to identify AN files issued by Switch Utilities during the audit period. A sample of six ANs per response code were reviewed to determine whether the codes had been correctly applied.

The switch breach history report for the audit period was reviewed in relation to late AN files.

CS files are examined in Section 4.10.

Audit Commentary

The switch breach report for the audit period recorded was examined. One AN file was sent late.

Four of six files with the AA code should have had the AD code. All six AD codes checked were correct. One of the four files was a MI switch.

Non-compliance	Description	
<p>With: Clause 10 of schedule 11.3</p> <p>From/to: 27/02/17 to 22/05/17</p>	<p>AN codes of AA used for 4 of 6 files where AD should have been used. One of these was a MI switch.</p> <p>1 late AN.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Moderate</p> <p>Breach Risk Rating: 2</p>	
Audit Risk Rating	Rationale for audit risk rating	
Low	<p>The controls are rated as moderate because there is room for improvement.</p> <p>There is no impact on settlement or on other participants because the AD code is not used for decision making. The presence of advanced metering is determined by checking the registry.</p> <p>The audit risk rating is therefore low.</p>	
Actions taken to resolve the issue	Completion date	Remedial action Status
We have identified that a switching agent had an inadequate understanding of the usage of the AN response codes, although the processes clearly set out the use cases. Additional training has been provided to that agent.	Cleared	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	

<p>We have a project underway to automate the creation of the switch loss acknowledgements which will determine the AN response codes systematically based on the ICP configuration and state, which will reduce the likelihood of such human error.</p>	<p>01/10/2017</p>	
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4.9 Losing Trader Determines a Different Switch Date (Clause 10 Schedule 11.3)

If the losing trader determines a different date, the losing trader must also complete the switch by providing to the registry as described in sub-clause (1)(a):

- *the event date proposed by the losing trader; and*
- *a valid switch response code; and*
- *final information as required under clause 1.*

Audit Observation

The setting of event dates for move switches was examined. The event detail report for the audit period was examined comparing the NT requested event date with the AN event date sent by Switch Utilities for any switches dated earlier than the NT requested date. The report was also checked to for any event dates that were set greater than ten days from the NT receipt date.

Audit Commentary

No event dates were set earlier than the requested date. None were later than 10 business days. Compliance is confirmed.

4.10 Losing Trader Must Provide Final Information (Clause 11 of Schedule 11.3)

If the losing trader has provided information to the registry in accordance with clause 10(a), within three business days after the later of the actual event date or date of receipt of the switch request, the losing trader must provide a CS file.

An event detail report for the audit period was reviewed, to identify CS files issued by Switch Utilities during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of five records. The content checked included:

- correct identification of meter readings and correct date of last meter reading
- accuracy of meter readings
- accuracy of average daily consumption (this is based on the most recent read to read consumption).

I checked a further 10 ICPs where the average daily consumption was zero and five ICPs where the average daily consumption was over 200 kWh.

The process to manage the sending of the CS file within five business days of the event date was examined.

The switch breach history report for the audit period was reviewed to identify late CS files.

Audit Commentary

The accuracy of the content of CS files was confirmed by checking a sample. The content checked included:

- correct identification of meter readings and correct date of meter readings for all NHH and Cat 1 & 2 AMI sites.
- accuracy of meter readings
- accuracy of average daily consumption (this is based on the most recent read to read consumption).

Compliance is confirmed for the file content, including the 15 ICPs where average daily consumption was evaluated.

The switch breach report contained 11 late CS files.

Non-compliance	Description	
With: Clause 11 of schedule 11.3 From/to: 08/12/16 to 03/05/17	11 late CS files. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach Risk Rating: 2	
Audit Risk Rating	Rationale for audit risk rating	
Low	The controls are rated as moderate because there is room for improvement. There is no impact on settlement and only a minor impact on other participants because the files were between 1 and 4 days late.	
Actions taken to resolve the issue	Completion date	Remedial action Status
The late move switch related CS files all occurred during the significant transition of Switch systems after the purchase by Vocus in late 2016 through to the completion of the system transitions in approximately April. Compliance has already been improved since this date due to various improvements to processes, additional training and resourcing, and the completion of the system transition.	Cleared	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	

<p>Compliance has already been improved since this date due to various improvements to processes, additional training and resourcing, and the completion of the system transition.</p> <p>As noted in earlier sections, the development of additional compliance monitoring is underway and this will allow any further non-compliances to be identified sooner and the underlying causes resolved where appropriate.</p>	<p>01/08/2017</p>	
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4.11 Gaining Trader Changes to Switch Meter Reading (Clause 12 Schedule 11.3)

The gaining trader may use the switch event meter reading supplied by the losing trader, or may, at its own cost, obtain its own switch event meter reading. If the gaining trader elects to use this new switch event meter reading, the gaining trader must notify the losing trader of the switch event meter reading and the actual event date to which it refers as follows:

- *if the switch meter reading established by the gaining trader differs by less than 200 kWh from that provided by the losing trader, both traders must use the switch event meter reading provided by the gaining trader (clause 12(2)(a)); or*
- *if the switch event meter reading provided by the losing trader differs by 200 kWh or more from a value established by the gaining trader, the gaining trader may dispute the switch meter reading. In this case, the gaining trader, within 4 calendar months of the actual event date, must provide to the losing trader a changed validated meter reading or a permanent estimate supported by two validated meter readings and the losing trader must either (clause 12(2)(b) and clause 12(3)):*
- *notify the gaining trader if it does not accept the switch event meter reading and the losing trader and the gaining trader must resolve the dispute in accordance with the disputes procedure in clause 15.29 (with all necessary amendments) (clause 12(3)(a)); or*
- *if the losing trader notifies its acceptance or does not provide any response, the losing trader must use the switch event meter reading supplied by the gaining trader. (clause 12(3)(b)).*

12(2A) If the losing trader trades electricity from a non-half hour meter, with a switch event meter reading that is not from an AMI certified meter flagged Y on the registry,

- *the gaining trader will trade electricity from a meter with a half hour submission type in the registry (clause 12(2A)(b));*
- *the gaining trader no later than five business days after receiving final information from the registry, may provide the losing trader with a switch event meter reading from that meter. The losing trader must use that switch event meter reading. (clause 12(2B))*

Audit Observation

The process for the management of read requests was examined.

The event detail report and switch breach report were analysed to identify all read change requests and acknowledgements during the audit period.

A sample of ten read change requests from the event detail report was selected using the diverse sample methodology. I also checked for late RR files in the switch breach report.

There were no RR rejections for MI switches.

Audit Commentary

The “switch breach report” contained no late RR files.

The content of RR files is compliant.

Gaining Trader (HH) Switching

4.12 Gaining Trader Informs Registry of Switch Request (Clause 14 of Schedule 11.3)

The gaining trader switch process applies where a trader and a customer or embedded generator enters into an arrangement in which the trader commences trading electricity with the customer or embedded generator to trade electricity through or assume responsibility for:

- *a half hour metering installation that is not a category 1 or 2 metering installation, that has an ICP with a submission type half hour on the registry and an AMI flag of “N”; or*
- *a half hour metering installation that has a submission flag of half hour and an AMI flag of “N” and is traded by the losing trader as non-half hour; or*
- *a non-half hour metering installation at an ICP with the losing trader trades through a half hour metering installation with an AMI flag of “N”.*

Audit Observation

The HHR switch process was examined and a sample of five ICPs using the typical sampling methodology were checked to confirm that these were notified to the registry within two business days.

Audit Commentary

All NT files are sent within two days of pre-conditions being met. Compliance is confirmed.

4.13 Losing Trader Provision of Information (Clause 15 of Schedule 11.3)

Within three business days after the losing trader is informed about the switch by the registry, the losing trader must:

- 15(a) - provide to the registry a valid switch response code as approved by the Authority; or*
- 15(b) - provide a request for withdrawal of the switch in accordance with clause 17.*

Audit Observation

The HHR switch process was examined and the event detail report and switch breach report were analysed to identify all HHR switch files sent during the audit period.

Audit Commentary

The switch breach report for the audit period was examined. All AN files were sent on time. Compliance is confirmed.

4.14 Gaining Trader to Notify Registry (Clause 16 of Schedule 11.3)

The gaining trader must complete the switch no later than three business days, after receiving the valid switch response code, by advising the registry of the event date.

Audit Observation

The HHR switching process was examined and the switch breach report was analysed.

Audit Commentary

There were five late CS files recorded on the switch breach report for the audit period.

Non-compliance	Description		
With: Clause 16 of schedule 11.3 From/to: 03/02/17 to 16/03/17	5 late CS files. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach Risk Rating: 2		
Audit Risk Rating	Rationale for audit risk rating		
Low	The controls are rated as moderate because there is room for improvement. There is no impact on settlement and only a minor impact on other participants because Switch sends a CS for their own ICP in the HH process.		
Actions taken to resolve the issue		Completion date	Remedial action Status
In this case the late CS files was caused by the fact that we did not realise that, after the other retailer has sent their "AN", the ICP disappears entirely from the breach report. As a result, we were not aware that the ICPs were ready for CS Files until the other retailer notified us that the ICPs were pending a CS. We have improved our process for CS switching so that we no longer rely on the breach report for monitoring HH related switches.		Cleared	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We have improved our process for CS switching so that we no longer rely on the breach report for monitoring HH related switches.		Cleared	

4.15 Withdrawal of Switch Requests (Clauses 17 & 18 of Schedule 11.3)

A losing trader or gaining trader may request that a switch request be withdrawn at any time until the expiry of two calendar months after the event date of the switch.

Within five business days after receiving a notification from the registry of a switch, the trader receiving the withdrawal must notify the registry that the switch withdrawal request is accepted or rejected. A switch withdrawal request must not become effective until accepted by the trader who received the withdrawal.

On receipt of a rejection notification from the registry, a trader may re-submit the switch withdrawal request for an ICP. All switch withdrawal requests must be resolved within 10 business days after the date of the initial switch withdrawal request.

If the trader requests that a switch request be withdrawn, and the resolution of that switch withdrawal request results in the switch proceeding, within two business days after receipt of notification from the registry in accordance with clause 22(b), the losing trader must comply with clauses 3,5,10 and 11 (whichever is appropriate) and the gaining trader must comply with clause 16.

Audit Observation

The switch withdrawal process was examined. The content of a sample of one ICP for each withdrawal code was checked using the typical sampling methodology from the event detail report. All four switch rejections were checked. The event detail report was also analysed to confirm timeliness of switch requests as this is not currently being identified in the switch breach report. This identified three ICPs that were backdated greater than two months from the event date. The switch breach report was checked for any late switch withdrawal acknowledgements and found none were recorded.

Audit Commentary

The content of some NW files was compared to details in the CRM, and in all cases, the withdrawal reasons provided by Switch Utilities were accurate.

All NW rejections by Switch Utilities were based on sound information supported by good notes in the CRM.

For the NW rejections by other traders, Switch Utilities had good reasons, supported by notes in CRM at the time of sending the NW.

The switch breach report was examined and found no AW breaches.

Three NW files were sent later than two calendar months.

Non-compliance	Description	
<p>With: Clause 17 of schedule 11.3</p> <p>From/to: 01/04/17 to 23/05/17</p>	<p>3 late NW files.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Strong</p> <p>Breach Risk Rating: 1</p>	
Audit Risk Rating	Rationale for audit risk rating	
Low	The controls are strong for the management of withdrawals. Whilst 3 files were late the issues only become clear after billing had occurred and then an investigation was completed. There was a minor impact on settlement due to the correction of consumption information. There was also a minor impact on the customer; therefore the audit risk rating is low.	
Actions taken to resolve the issue	Completion date	Remedial action Status
<p>In the circumstance, Switch believes that it was in the best interests of the customer and all participants involved to replace the read late in order to better comply with its obligations to ensure that complete and accurate information is provided which impacts the reconciliation process.</p> <p>Switch does not believe any further action can be taken here given that circumstances.</p>	Cleared	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	

4.16 Metering Information (Clause 21 Schedule 11.3)

For an interrogation or validated meter reading or permanent estimate carried out in accordance with Schedule 11.3:

- *the trader who carries out the interrogation, switch event meter reading must ensure that the interrogation is as accurate as possible, or that the switch event meter reading is fair and reasonable.*
- *the cost of every interrogation or switch event meter reading carried out in accordance with clauses 5(b) or 11(b) or (c) must be met by the losing trader. The costs in every other case must be met by the gaining trader.*

Audit Observation

The meter reading process in relation to meter reads for switching purposes was examined. Examples to confirm this procedure have been examined as part of the sending of final information for switches and read requests made.

Audit Commentary

Whilst some meter readings have been changes as part of the switching process, the estimation methodology is considered sound. Meter readings are entered manually and there is an additional check of all meter readings against the source date to confirm accuracy. Compliance is confirmed.

4.17 Switch Saving Protection (Clause 11.15AA to 11.15AD of Part 11)

A trader that buys electricity from the clearing manager may elect to have a switch saving protection by giving notice to the Authority in writing.

If a protected trader enters into an arrangement with a customer of another trader (the losing trader), or a trader enters into an arrangement with a customer of a protected trader, to commence trading electricity with the customer, the losing trader must not, by any means, initiate Switch Utilities with the customer to attempt to persuade the customer to terminate the arrangement during the period from the receipt of the NT to the event date of the switch including by:

11.15AB(4)(a)- making a counter offer to the customer; or

11.15AB(4)(b)- offering an enticement to the customer.

Audit Observation

The Electricity Registry switch save protected retailer list was examined to confirm that is not a save protected retailer.

Win-back processes were examined to determine whether they are compliant.

I checked the event detail report for all withdrawn switches from the audit period to identify any withdrawn switches with a CX code applied prior to the switch completion date in relation to any switch save protected retailers.

Audit Commentary

There were no examples of NW CX files being sent prior to the switch completion. Compliance is confirmed.

5. Maintenance of Unmetered Load

5.1 Maintaining Shared Unmetered Load (Clause 11.14 of Part 11)

The trader must adhere to the process for maintaining shared unmetered load.

Audit Observation

The registry list was reviewed and found Switch Utilities has no shared unmetered load.

Audit Commentary

The registry list was reviewed and found Switch Utilities has no shared unmetered load.

5.2 Unmetered Threshold (Clause 10.14(2)(b) of Part 10)

The reconciliation participant must ensure that unmetered load does not exceed 3,000 kWh per annum, or 6,000 kWh per annum if the load is predictable and of a type approved and published by the Authority.

Audit Observation

Examination of the list file found no active ICPs with unmetered load greater than 6,000 kWh per annum. There are no records with consumption between 3,000 and 6,000 kWh per annum.

Audit Commentary

Examination of the list file found no active ICPs with unmetered load greater than 6,000 kWh per annum. There are no records with consumption between 3,000 and 6,000 kWh per annum.

5.3 Unmetered Threshold Exceeded (Clause 10.14 (5))

If the unmetered load limit is exceeded the retailer must:

- *within 20 business days, commence corrective measure to ensure it complies with Part 10*
- *within 20 business days of commencing the corrective measure, complete the corrective measures*
- *no later than 10 business days after it becomes aware of the limit having been exceeded, advise each participant who is or would be expected to be affected of:*
 - *the date the limit was calculated or estimated to have been exceeded*
 - *the details of the corrective measures that the retailer proposes to take or is taking to reduce the unmetered load.*

Audit Observation

Examination of the list file found no active ICPs with unmetered load greater than 6,000 kWh per annum. There are no records with consumption between 3,000 and 6,000 kWh per annum.

Audit Commentary

Examination of the list file found no active ICPs with unmetered load greater than 6,000 kWh per annum. There are no records with consumption between 3,000 and 6,000 kWh per annum.

5.4 Distributed Unmetered Load (Clause 11 of Schedule 15.3)

An up-to-date database must be maintained for each type of distributed unmetered load for which the retailer is responsible. The information in the database must be maintained in a manner that the resulting submission information meets the accuracy requirements of clause 15.2.

A separate audit is required for distributed unmetered load data bases.

The database must satisfy the requirements of Schedule 15.5 with regard to the methodology for deriving submission information.

Audit Observation

Switch Utilities does not have any distributed unmetered load.

Audit Commentary

Switch Utilities does not have any distributed unmetered load.

6. Gathering and Storing Raw Meter Data

6.1 Electricity Conveyed & Notification by Embedded Generators (Clause 10.13, Clause 10.24 and 15.13)

A trader must ensure that for each energised ICP that electricity is conveyed is in accordance with the code.

A participant is not required to quantify the electricity at a point of connection if the electricity is supplied by an embedded generator who has given the Reconciliation Manager a notification under clause 15.13 of Part 15.

Audit Observation

The process to manage distributed generation was examined. The list file was analysed and all ICPs where the Distributor has indicated distributed generation were identified. This was further broken down to identify any ICPs with a non distributed generation profile. The metering configuration for these ICPs was analysed to confirm if an injection channel was present and therefore distributed generation is present.

There were no examples of bridged meters during the audit period.

Audit Observation

A trader must ensure that for each energised ICP that electricity is conveyed is in accordance with the code. A participant is not required to quantify the electricity at a point of connection if the electricity is supplied by an embedded generator who has given the Reconciliation Manager a notification under clause 15.13 of Part 15.

Switch Utilities' list file was examined in relation to ICPs with generation listed by the Distributor. Three were identified. Switch Utilities had identified all of them and had set them up with the correct channel flow.

Switch Utilities' new connection process includes a check that metering is installed before energisation occurs, or that any unmetered load is quantified. All ICPs were metered correctly. There are no ICPs where subtraction occurs. Compliance is confirmed.

6.2 Responsibility for Metering at GIP (Clause 10.26 of Part 10)

For each proposed metering installation or change to a metering installation that is a connection to the grid, the participant, must:

- provide to the grid owner a copy of the metering installation design (before ordering the equipment)*
- provide at least three months for the grid owner to review and comment on the design*
- respond within three business days of receipt to any request from the grid owner for additional details or changes to the design*
- ensure any reasonable changes from the grid owner are carried out.*

The participant responsible for the metering installation must:

- advise the reconciliation manager of the certification expiry date not later than 10 business days after certification of the metering installation*
- become the MEP or contract with a person to be the MEP*
- advise the reconciliation manager of the MEP identifier no later than 20 days after entering into a contract or assuming responsibility to be the MEP.*

Audit Observation

Switch Utilities is not responsible for any GIP metering.

Audit Commentary

Switch Utilities is not responsible for any GIP metering.

6.3 Certification of Control Devices (Clause 33 Schedule 10.7 and clause 2(2) Schedule 15.3)

The reconciliation participant must advise the metering equipment provider if a control device is used to control load or switch meter registers.

The reconciliation participant must ensure the control device is certified prior to using it for reconciliation purposes.

Audit Observation

A registry list file was reviewed for the audit period to confirm what profiles were being used by Switch Utilities. Only the HHR, RPS and PV1 profiles are used.

Audit Commentary

A registry list file was reviewed for the audit period to confirm what profiles were being used by Switch Utilities. Only the HHR, RPS and PV1 profiles are used.

6.4 Reporting of Defective Metering Installations (Clause 10.43(2) and (3))

If a participant becomes aware of an event or circumstance that lead it to believe a metering installation could be inaccurate, defective, or not fit for purpose they must:

- advise the MEP
- include in the advice all relevant details.

Audit Observation

I asked Switch Utilities if there were any examples of defective metering identified during the audit period. Their validation processes had not identified any defective metering.

Audit Commentary

I asked Switch Utilities if there were any examples of defective metering identified during the audit period. Their validation processes had not identified any defective metering. Validation processes are robust and defective metering is likely to be identified if it occurs. Compliance is confirmed.

6.5 Collection of Information by Certified Reconciliation Participant (Clause 2 of Schedule 15.2)

A reconciliation participant must obtain raw meter data used to determine volume information from the services access interface. Except when only the Metering Equipment Provider can electronically interrogate a metering installation for which it is responsible and they have an arrangement with the reconciliation participant which prevents them from interrogating the metering installation themselves.

Audit Observation

The data collection process was examined to confirm the source of volume information and whether it was obtained from the services access interface.

Audit Commentary

All information used to determine volume information is collected by agents or by MEPs and is derived from the services access interface. Compliance is confirmed.

6.6 Derivation of Meter Readings (Clause 3(1), 3(2) and 5 Schedule 15.2)

All meter readings must in accordance with the participants certified processes and procedures and using its certified facilities be sourced directly from raw meter data and, if appropriate, be derived and calculated from financial records.

All validated meter readings must be derived from meter readings.

A meter reading provided by a consumer may be used as a validated meter reading only if another set of validated meter readings not provided by the consumer are used during the validation process.

During the manual interrogation of each NHH metering installation the reconciliation participant must:

- (a) obtain the meter register
- (b) ensure seals are present and intact
- (c) check for phase failure (if supported by the meter)

(d) check for signs of tampering and damage

(e) check for electrically unsafe situations.

If the relevant parts of the metering installation are visible and it is safe to do so.

Audit Observation

The data collection process was examined by a walk-through of the importing and validation steps.

Audit Commentary

AMI Information used to determine volume information is provided by AMS, SMCO, ARC, FCLM, WASN and Metrix as Meter Equipment Providers to Switch Utilities. This function will be examined as part of their respective MEP audits.

NHH manual reads are provided by Wells. Their audit report confirms compliance with points a to d above. Compliance is confirmed.

Customer reads are provided and they are validated against other non-customer reads. Compliance is confirmed.

6.7 NHH Meter Reading Application (Clause 6 Schedule 15.2)

For NHH switch event meter reads, for the gaining trader the reading applies from 0000 hours on the day of the relevant event date and for the losing trader at 2400 hours at the end of the day before the relevant event date.

In all other cases, All NHH readings apply from 0000hrs on the day after the last meter interrogation up to and including 2400hrs on the day of the meter interrogation.

Audit Observation

The process of the application of meter readings was examined by a walk-through of the steps and by sighting five examples in the database.

Audit Commentary

AMI reads are timestamped at 23:59:59 to ensure they are allocated to the correct date. Meter readings from Wells have a date and time-stamp on the day of the reading. Application of reads was also reviewed as part of the historic estimate checks, discussed in section **12.11**. Compliance is confirmed

6.8 Interrogate Meters Once (Clause 7(1) and (2) Schedule 15.2)

A validated meter reading must be obtained in respect of every meter register for every non-half hour metered ICP for which the participant is responsible, at least once during the period of supply to the ICP by the reconciliation participant, unless exceptional circumstances prevent this from occurring. This may be a validated meter reading at the time the ICP is switched to, or from, the reconciliation participant.

The NHH meter reading frequency guidelines published by the Electricity Authority define “Exceptional circumstances” as meaning “circumstances in which access to the relevant meter is not achieved despite the reconciliation participant's best endeavours”. “Best endeavours” is defined as “Where a reconciliation participant failed to interrogate an ICP as a result of access issues, the reconciliation participant had made a minimum of three attempts to contact the customer, by using at least two methods of communication”.

Audit Observation

The process to manage missed reads was examined by a walk-through of the trigger points leading to actions to get meter readings.

Switch Utilities does not have a list of ICPs not read during the period of supply.

Audit Commentary

The meter reading access process starts at 60 days, therefore any ICPs that switch in and out within a short period will not always have a meter reading. This is recorded as non-compliance.

Non-compliance	Description	
<p>With: Clauses 7(1) and 7(2) of Schedule 15.2</p> <p>From/to: 19/07/16 to 18/07/17</p>	<p>No process for getting meter readings during the period of supply.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Weak</p> <p>Breach Risk Rating: 3</p>	
Audit Risk Rating	Rationale for audit risk rating	
Low	The impact on settlement from an estimate for a short period is minor therefore the audit risk rating is low.	
Actions taken to resolve the issue	Completion date	Remedial action Status

<p>Although we acknowledge that there may be some circumstances where a reading is not obtained during the period of supply, given that our standard no-reading process begins at 60 days, we have not been able to identify any other processes that reasonably could be implemented to improve read attainment here given the short timeframes involved, and there is no likely material market impact.</p> <p>Switch is open to suggestions from the EA or other parties on processes we could implement, which are being used by other participants in the industry, which would improve our compliance here and we are happy to correspond further on these matters.</p>	Cleared	Identified
<p>Preventative actions taken to ensure no further issues will occur</p>	<p>Completion date</p>	

6.9 NHH Meters Interrogated Annually (Clause 8(1) and (2) Schedule 15.2)

At least once every 12 months, each reconciliation participant must obtain a validated meter reading for every meter register for non-half hour metered ICPs, at which the reconciliation participant trades continuously for each 12 month period.

If exceptional circumstances prevent a reconciliation participant from obtaining the validated meter reading, the reconciliation participant is not required to comply with clause 8(1).

Audit Observation

The meter reading process was examined along with the required reporting.

Audit Commentary

If a meter reading has not been obtained after 60 days for an ICP, the record appears on a report and outbound contact is commenced. Switch Utilities has not yet had any ICPs for 12 months but the processes in place will achieve compliance.

6.10 NHH Meters 90% Read Rate (Clause 9(1) and (2) of Schedule 15.2)

In relation to each NSP, each reconciliation participant must ensure that for each NHH ICP at which the reconciliation participant trades continuously for each four months, for which consumption information is required to be reported into the reconciliation process. A validated meter reading is obtained at least once every four months for 90% of the non-half hour ICPs.

A report is to be sent to the market administrator providing the percentage, in relation to each NSP, for which consumption information has been collected no later than 20 business days after the end of each month.

If exceptional circumstances prevent a reconciliation participant from obtaining the validated meter reading, the reconciliation participant is not required to comply with clause 9(1).

Audit Observation

The meter reading process was examined along with any reporting in place.

Audit Commentary

The monthly meter reading reports are not being provided as required by this clause. This is discussed further in Section 13.1.

If a meter reading has not been obtained after 60 days for an ICP, the record appears on a report and outbound contact is commenced. This process meets the best endeavours requirement. Compliance is confirmed.

6.11 NHH Meter Interrogation Log (Clause 10 Schedule 15.2)

The following information must be logged as the result of each interrogation of the NHH metering:

10(a) - the means to establish the identity of the individual meter reader

10(b) - the ICP identifier of the ICP, and the meter and register identification

10(c) - the method being used for the interrogation and the device ID of equipment being used for interrogation of the meter.

10(d) - the date and time of the meter interrogation.

Audit Observation

Data is collected by agents and MEPs. MEP's compliance is discussed in their individual audit reports. I checked the Wells audit report to confirm compliance with this clause.

Audit Commentary

The Wells audit report confirms compliance.

6.12 HHR Data Collection (Clause 11(1) Schedule 15.2)

Raw meter data from all electronically interrogated metering installations must be obtained via the services access interface. This may be carried out by a portable device or remotely.

Audit Observation

All HHR data is provided by agents. Their reports were checked in relation to compliance with this clause.

Audit Commentary

The agents' audit reports confirm compliance with this clause.

6.13 HHR Interrogation Data Requirement (Clause 11(2) Schedule 15.2)

The following information is collected during each interrogation of HHR metering:

- *the unique identifier (device ID) of the meter or data logger;*
- *the connection time, disconnection time and recorder time;*
- *the half-hour metering information for each trading period;*
- *events log.*

The interrogation log must be examined by the reconciliation participant responsible for collecting the data and appropriate action must be taken if problems are apparent or an automated software function flags exceptions.

Audit Observation

All HHR data is provided by agents. Their reports were checked in relation to compliance with this clause.

Audit Commentary

The agents' audit reports confirm compliance with this clause.

6.14 HHR Interrogation Log Requirements (Clause 11(3) Schedule 15.2)

The interrogation log forms part of the interrogation audit trail and, as a minimum, must contain the following information:

11(3)(a)- the date of interrogation

11(3)(b)- the time of commencement of interrogation

11(3)(c)- the operator identification (if available)

11(3)(d)- the unique identifier of the meter or data storage device

11(3)(e)- the clock errors outside the range specified in Table 1 of clause 2

11(3)(f)- the method of interrogation

11(3)(g)- the identifier of the reading device used for interrogation (if applicable).

Audit Observation

All HHR data is provided by agents. Their reports were checked in relation to compliance with this clause.

Audit Commentary

The agents' audit reports confirm compliance with this clause.

7. Storing raw meter data

7.1 Trading Period Duration (Clause 13 Schedule 15.2)

The trading period duration, normally 30 minutes, must be within $\pm 0.1\%$ (± 2 seconds).

Audit Observation

All HHR data is provided by agents. Their reports were checked in relation to compliance with this clause.

Audit Commentary

The agents' audit reports confirm compliance with this clause.

7.2 Archiving and Storage of Raw Meter Data (Clause 18 Schedule 15.2)

A reconciliation participant who is responsible for interrogating a metering installation must archive all raw meter data and any changes to the raw meter data for at least 48 months, in accordance with clause 8(6) of Schedule 10.6.

Procedures must be in place to ensure that raw meter data cannot be accessed by unauthorised personnel.

Meter readings cannot be modified without an audit trail being created.

Audit Observation

Processes to archive and store raw meter data were reviewed.

Audit Commentary

When this data reaches Switch Utilities' systems, the level of security is robust and data cannot be accessed by unauthorised personnel.

Switch Utilities has retained reading data since they began trading, and intends to retain reading data for at least 48 months.

Compliance with clause 18.3 of schedule 15.2 was examined, which requires that ".....meter readings cannot be modified without an audit trail being created." Readings cannot be modified without an audit trail being created. Readings are imported into a raw data table and any adjustments or corrections are made to working data, not raw data. Compliance is confirmed.

7.3 Non Metering Information Collected / Archived (Clause 21(5) Schedule 15.2)

All relevant non-metering information, such as external control equipment operation logs, used in the determination of profile data must be collected, and archived in accordance with clause 18.

Audit Observation

Processes to record non-metering information were discussed.

Audit Commentary

Switch Utilities does not deal with any non-metering information.

7.4 Data Storage Device Clock Synchronisation (Clause 2(5)&(6) of Schedule 15.2)

When electronically interrogating the meter the participant must ensure that the clock is synchronised and correct the clock and raw data where necessary.

Audit Observation

All HHR data is provided by agents. Their reports were checked in relation to compliance with this clause.

Audit Commentary

The agents' audit reports confirm compliance with this clause.

8. Creating and Managing (Including Validating, Estimating, Storing, Correcting and Archiving) Volume Information

8.1 Correction of NHH Meter Readings (Clause 19(1) Schedule 15.2)

If errors are detected during validation of non-half hour meter readings, one of the following must be undertaken:

- confirmation of the original meter reading by carrying out another meter reading*
- replacement of the original meter reading by another meter reading (even if the replacement meter reading may be at a different date)*
- if the original meter reading cannot be confirmed or replaced by a meter reading from another interrogation, then an estimated reading is substituted and the estimated reading is marked as an estimate and it is subsequently replaced in accordance with clause 4(2).*

Audit Observation

Processes for the correction of NHH meter readings were reviewed by checking process documentation and system capability. There were no correction examples during the audit period.

Audit Commentary

There were no examples of corrections to actual metering data available during the audit period. Consumption is estimated where a reading is unavailable. Once actual reads are available these are loaded after the estimates, the estimates are not replaced. The process documentation achieves compliance. The system capability includes the ability to create a “dummy register” to allocate any corrected consumption to, which ensures submission occurs. Compliance is confirmed.

8.2 Correction of HHR Metering Information (Clause 19(2) Schedule 15.2)

If errors are detected during validation of half hour metering information the correction must be as follows:

- if a check meter or data storage device is installed at the metering installation, data from this source may be substituted*
- in the absence of any check meter or data storage device, data may be substituted from another period if the total of all substituted intervals matches the total consumption recorded on the meter, if available, and the pattern of consumption is considered materially similar to the period in error.*

Audit Observation

I checked the differences between revisions in the January 2017 HHR aggregates file to identify potential corrections or estimates. I then checked the supporting information for each change.

Audit Commentary

Several corrections were required due to a system issue leading to duplication of channels. Another change was the result of replacing estimates with actual data. In all cases, the correction methodology was sound, although audit trails are not held for these changes, which is raised in Section 2.3. Compliance is confirmed for the correction clauses.

8.3 Error and Loss Compensation Arrangements (Clause 19(3) Schedule 15.2)

If error compensation and loss compensation are carried out as part of the process of determining accurate data, the compensation process must be documented and must comply with audit trail requirements.

Audit Observation

I asked Switch Utilities if any error or loss compensation arrangements were in place.

Audit Commentary

Switch Utilities confirmed that no error or loss compensation arrangements are in place.

8.4 Correction of HHR and NHH Raw Meter Data (Clause 22(1) and (2) Schedule 15.2)

In correcting a meter reading in accordance with clause 19, the raw meter data must not be overwritten. If the raw meter data and the meter readings are the same, an automatic secure backup of the affected data must be made and archived by the processing or data correction application.

If data is corrected or altered, a journal must be generated and archived with the raw meter data file. The journal must contain the following:

22(2)(a) - the date of the correction or alteration

22(2)(b) - the time of the correction or alteration

22(2)(c) - the operator identifier of the reconciliation participant

22(2)(d) - the half-hour metering data or the non-half hour metering data corrected or altered, and the total difference in volume of such corrected or altered data

22(2)(e) - the technique used to arrive at the corrected data

22(2)(f) - the reason for the correction or alteration.

Audit Observation

Corrections are discussed in sections **8.1** and **8.2**. Raw data is retained by the agents and MEPs and is not edited in any way by any process. Audit trails are discussed in section **2.3**.

Raw meter data retention for MEPs was reviewed as part of their MEP audits.

Audit Commentary

There were no examples of corrections to raw meter data. Compliance is confirmed.

9. Estimating and Validating Volume Information

9.1 Identification of Readings (Clause 3(3) Schedule 15.2)

All estimated readings and permanent estimates must be clearly identified as an estimate at source and in any exchange of metering data or volume information between participants.

Audit Observation

Provision of estimated reads to other participants during switching was reviewed in sections **4.3**, **4.4**, **4.10** and **4.11**.

Correct identification of estimated reads and review of the estimation process was completed in section **8.1**.

Audit Commentary

Estimated readings are clearly identified as required by this clause. Compliance is confirmed.

9.2 Derivation of Volume Information (Clause 3(4) Schedule 15.2)

Volume information must be directly derived, in accordance with Schedule 15.2, from:

3(4)(a) - validated meter readings

3(4)(b) - estimated readings

3(4)(c) - permanent estimates.

Audit Observation

A sample of submission data was reviewed in section 12, to confirm that volume was based on readings as required.

Audit Commentary

Review of submission data confirmed that it is based on readings as required by this clause. Compliance is confirmed.

9.3 Meter Data Used to Derive Volume Information (Clause 3(5) Schedule 15.2)

All meter data that is used for derive volume information must not be rounded or truncated from the stored data from the metering installation.

Audit Observation

A sample of submission data was reviewed in section 12, to confirm that volume was based on readings as required.

Audit Commentary

Data provided by the MEPs and agents is not rounded or truncated. Compliance is confirmed.

9.4 Half Hour Estimates (Clause 15 Schedule 15.2)

If a reconciliation participant is unable to interrogate an electronically interrogated metering installation before the deadline for providing submission information, the submission to the reconciliation manager must be the reconciliation participant's best estimate of the quantity of electricity that was purchased or sold in each trading period during any applicable consumption period for that metering installation.

The reconciliation participant must use reasonable endeavours to ensure that estimated submission information is within the percentage specified by the Authority.

Audit Observation

I checked the differences between revisions in the January 2017 HHR aggregates file to identify potential corrections or estimates. I then checked the supporting information for each change.

Audit Commentary

One estimate was required due to data unavailability. The estimation methodology was sound, and was conducted in accordance with the process documentation. Although audit trails are not held for these changes, which is raised in Section 2.3, compliance is confirmed for the estimation clauses.

9.5 NHH Metering Information Data Validation (Clause 16 Schedule 15.2)

Each validity check of non-half hour meter readings and estimated readings must include the following:

16(2)(a) - confirmation that the meter reading or estimated reading relates to the correct ICP, meter, and register

16(2)(b) - checks for invalid dates and times

16(2)(c) - confirmation that the meter reading or estimated reading lies within an acceptable range compared with the expected pattern, previous pattern, or trend

16(2)(d) - confirmation that there is no obvious corruption of the data, including unexpected zero values.

Audit Observation

I reviewed and observed the NHH data validation process, including checking a sample of data validations.

Audit Commentary

NHH meter reading validation occurs at hand held level by Wells, and then Switch Utilities has the following checks in place:

1. high consumption
2. low consumption
3. zero consumption
4. negative consumption
5. missing meter readings
6. comparison of units per day (UPD) with historic UPD and if the difference is more than 100kWh and 50% it will become an exception

Any exceptions are addressed and action is taken depending on the type of exception. Switch Utilities has a graphing function to assist with evaluating consumption patterns.

I observed the read import process checks, which are as follows:

- readings relate to the correct ICP meter and register.
- the date and time is valid, and matches the expected date.
- if the read is lower by more than 50%, an exception is generated and a rollover read is processed.

Compliance is confirmed.

9.6 Electronic Meter Readings and Estimated Readings (Clause 17 Schedule 15.2)

Each validity check of electronically interrogated meter readings and estimate readings must be at a frequency that will allow a further interrogation of the data storage device before the data is overwritten within the data storage device and before this data can be used for any purpose under the Code.

Each validity check of a meter reading obtained by electronic interrogation or an estimated reading must include:

17(4)(a) - checks for missing data

17(4)(b) - checks for invalid dates and times

17(4)(c) - checks of unexpected zero values

17(4)(d) - comparison with expected or previous flow patterns

17(4)(e) - comparisons of meter readings with data on any data storage device registers that are available

17(4)(f) - a review of meter and data storage device event list. Any event that could have affected the integrity of metering data must be investigated.

Audit Observation

I checked the validation steps by conducting a walk-through of the process. I observed the AMI event logs where they were available and I observed the associated correspondence related to specific issues to resolve.

Audit Commentary

Data is validated as it arrives and is before the raw data in the data storage device could be over written.

Validity checks are conducted in the HHR database. The database checks for missing days and missing trading periods, indicating that data is missing for complete days or for part days. If the data cannot be obtained then estimation is conducted. There is also an invoice review to ensure there are no unexpected changes to the consumption patterns.

HHR data is validated against NHH data (where it is available) and then the NHH data is checked as described in the previous section, whether the ICP is NHH or HHR.

AMI event information is provided by WASN, AMS, SMCO, Metrix and FCLM. Event logs are not sent by ARC Innovations. Some MEPs send associated notifications where they consider the matter needs immediate attention, for example phase failure or reverse power. Switch Utilities then issues a service order for the work to be conducted. Switch Utilities does not have a thorough and ongoing process to evaluate other events, such as tamper. This is recorded as non-compliance.

Non-compliance	Description	
<p>With: Clause 17 of schedule 15.2</p> <p>From/to: 19/07/16 to 18/07/17</p>	<p>AMI event information not routinely monitored. No event information from ARC.</p> <p>Potential impact: High</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Moderate</p> <p>Breach Risk Rating: 2</p>	
Audit Risk Rating	Rationale for audit risk rating	
Low	The controls are considered moderate because there is room for improvement. No examples were found where settlement was affected and the major issues are dealt with, so the audit risk rating is low.	
Actions taken to resolve the issue	Completion date	Remedial action Status
<p>We are notified of material events by AMS who is our predominant provider of read information.</p> <p>We accept that there was an oversight in relation to the monitoring of AMI event information more generally, and have implemented a process to monitor event information provided by the other metering equipment providers.</p> <p>We have also followed up with ARC with respect to the current non-provision of event information to Switch.</p>	Cleared	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	

10. Provision of Metering Information to the Grid Owner in Accordance With Subpart 4 of Part 13 (clause 15.38(1)(f))

10.1 Generators to Provide HHR Metering Information (Clause 13.136)

The generator (and/or embedded generator) must provide to the pricing manager and the grid owner connected to the local network in which the embedded generator is located, half hour metering information in accordance with clause 13.138 in relation to generating plant that is subject to a dispatch instruction:

- that injects electricity directly into a local network; or
- if the meter configuration is such that the electricity flows into a local network without first passing through a grid injection point or grid exit point metering installation.

Audit Observation

Switch Utilities does not have responsibilities for the provision of information to the grid owner.

Audit Commentary

Switch Utilities does not have responsibilities for the provision of information to the grid owner.

10.2 Unoffered & Intermittent Generation Provision of Metering Information (Clause 13.137)

Each generator must provide the pricing manager and the relevant grid owner half-hour metering information for:

- *any unoffered generation from a generating station with a point of connection to the grid*
13.137(1)(a)
- *any electricity supplied from an intermittent generating station with a point of connection to the grid.*
13.137(1)(b)

The generator must provide the pricing manager and the relevant grid owner with the half-hour metering information required under this clause in accordance with the requirements of Part 15 for the collection of that generator's volume information. (clause 13.137(2))

If such half-hour metering information is not available, the generator must provide the pricing manager and the relevant grid owner a reasonable estimate of such data. (clause 13.137(3))

Audit Observation

Switch Utilities does not have responsibilities for the provision of information to the grid owner.

Audit Commentary

Switch Utilities does not have responsibilities for the provision of information to the grid owner.

10.3 Loss Adjustment of HHR Metering Information (Clause 13.138)

The generator must provide the information required by clauses 13.136 and 13.137,

13.138(1)(a) - adjusted for losses (if any) relative to the grid injection point or, for embedded generators the grid exit point, at which it offered the electricity

13.138(1)(b) - in the manner and form that the pricing manager stipulates

13.138(1)(c) - by 0500 hours on a trading day for each trading period of the previous trading day.

The generator must provide the half-hour metering information required under this clause in accordance with the requirements of Part 15 for the collection of the generator's volume information.

Audit Observation

Switch Utilities does not have responsibilities for the provision of information to the grid owner.

Audit Commentary

Switch Utilities does not have responsibilities for the provision of information to the grid owner.

10.4 Notification of the Provision of HHR Metering Information (Clause 13.140)

If the generator provides half-hourly metering information to the pricing manager or a grid owner under clauses 13.136 to 13.138, or 13.138A, it must also, by 0500 hours of that day, advise the relevant grid owner.

Audit Observation

Switch Utilities does not have responsibilities for the provision of information to the grid owner.

Audit Commentary

Switch Utilities does not have responsibilities for the provision of information to the grid owner.

11. Provision of Submission Information for Reconciliation

11.1 Buying and Selling Notifications (Clause 15.3)

Unless an embedded generator has given a notification in respect of the point of connection under clause 15.3, a trader must notify the reconciliation manager if it is to commence or cease trading electricity at a point of connection using a profile with a profile code other than HHR, RPS, UML, EG1, or PV1 at least five business days before commencing or ceasing trader.

The notification must comply with any procedures or requirements specified by the reconciliation manager.

Audit Observation

A registry list was reviewed for the audit period to confirm which profiles were used.

Audit Commentary

As Switch Utilities is only using the RPS, PV1 and HHR profiles, trading notifications were not required.

11.2 Calculation of ICP Days (Clause 15.6)

Each retailer and direct purchaser (excluding direct consumers) must deliver a report to the reconciliation manager detailing the number of ICP days for each NSP for each submission file of submission information in respect of:

15.6(1)(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period

15.6(1)(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.

Audit Observation

The process for the calculation of ICP days was examined by checking three NSPs with a small number of ICPs to confirm the AV110 ICP days calculation was correct.

I reviewed variances for the period December 2016 to May 2017, and investigated any large discrepancies.

Audit Commentary

The process for the calculation of ICP days was examined by checking three NSPs with a small number of ICPs. ICP days calculation was confirmed to be correct for standard scenarios.

The ICP comp reports showed there were a large number of NSPs with variances of one day, where the Switch Utilities ICP days was one day low. This occurs when the ICP days is not related to a read to read period and where a forward default estimate is being used. The first day of the period is missing from ICP days and from submission files. Once a read is gained the first day is accounted for. This is raised as non-compliance.

There were a number of discrepancies caused by the submission of HHR data for ICPs recorded on the registry as NHH. The registry is correct for these and HHR data should not have been submitted. These have been corrected in revision files.

Non-compliance	Description		
<p>With: Clause 15.6 of part 15</p> <p>From/to: 01/12/16 to 31/05/17</p>	<p>ICP days calculation inaccurate where reads are not present.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Moderate</p> <p>Breach Risk Rating: 2</p>		
Audit Risk Rating	Rationale for audit risk rating		
Low	<p>The controls are considered moderate because there is room for improvement to identify and correct discrepancies more quickly.</p> <p>The impact on settlement is minor, therefore the audit risk rating is considered low.</p>		
Actions taken to resolve the issue	Completion date	Remedial action Status	

<p>We have identified that this is caused by a specific situation in our non-half hourly reconciliation system where no read information (estimated from the billing engine, or actual) is available and the system reverts to Default Estimation.</p> <p>The sub-routine for Default Estimation is defective and does not add the additional one day necessary for the first date of responsibility, but the day calculation is otherwise correct once at least one reading (or non-default estimation from the billing engine) is available and the read-to-read calculation routine is applied.</p> <p>As such this is self resolving through revision, and the interim solution is that for all ICPs being reconciled Switch will ensure a reading is provided to the NHH Reconciliation System (whether actual reading, or an estimate sourced from the billing platform, or an estimate reading manually entered in by the end user) which will prevent default estimation during the first month or so after acquisition.</p>	01/08/2017	Identified
<p>Preventative actions taken to ensure no further issues will occur</p>	<p>Completion date</p>	

11.3 Electricity Supplied Information Provision to the Reconciliation Manager (Clause 15.7)

A retailer must deliver to the reconciliation manager its total monthly quantity of electricity supplied for each NSP, aggregated by invoice month, for which it has provided submission information to the reconciliation manager, including revised submission information for that period as non-loss adjusted values in respect of:

15.7(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period

15.7(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.

Audit Observation

The process for the calculation of as billed volumes was examined by checking three NSPs with a small number of ICPs to confirm the AV120 calculation was correct.

Review the GR130 reports for November 2015 onwards to confirm whether the relationship between billed and submitted data appears reasonable.

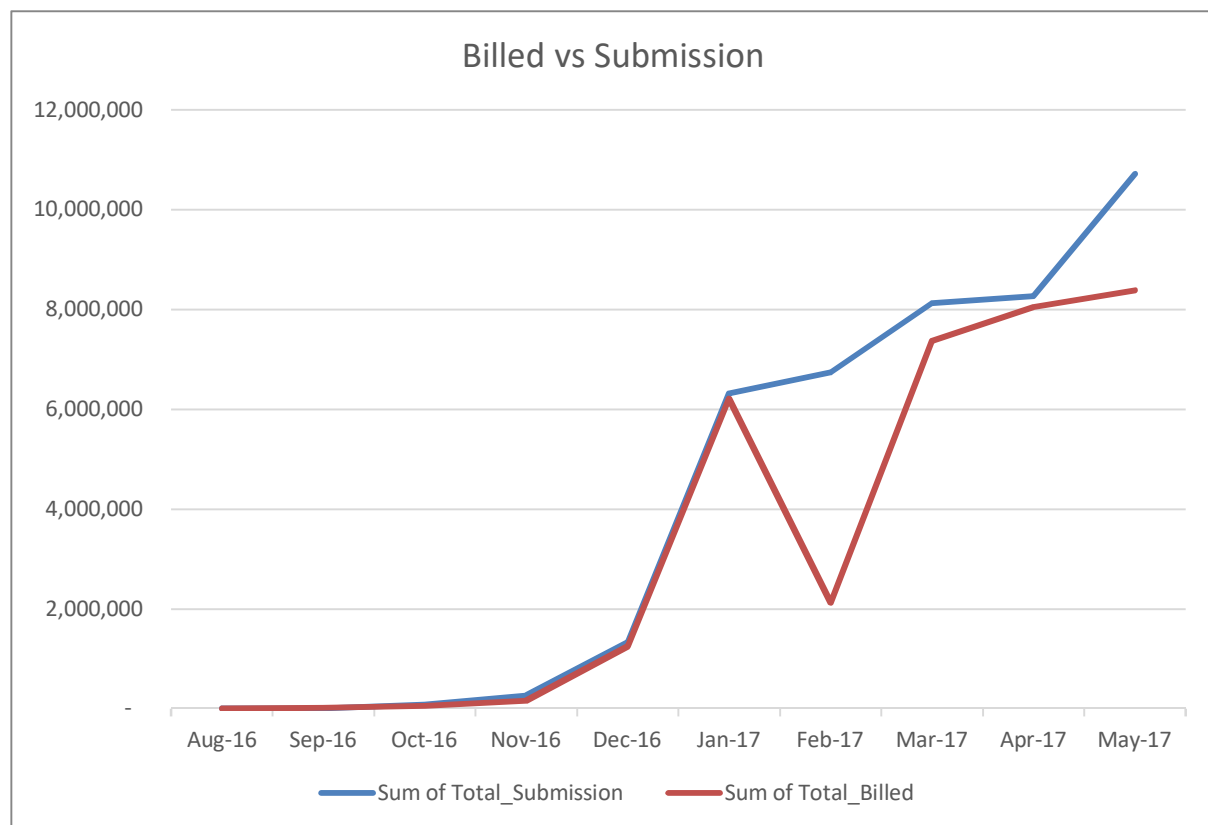
Audit Commentary

The process for calculating and submitting electricity supplied information was examined by checking individual invoices for a typical sample of three NSPs to ensure the billed amount equalled the figure in

the ICP level file which forms the basis of the aggregate file sent to the RM. The file is correct for the sample checked.

Two issues were identified by comparing the billed totals per NSP to the submission totals per NSP. The graph below illustrates that there is under report of electricity supplied volumes during 2017. This discrepancy is present where there is an ICP with downstream check metering and invoicing occurs based on the check metering. This consumption is not reported as “billed” but it should be. This matter is now resolved and the revision files will correct the relevant totals. The other issue relates to September 2016, when Switch Utilities changed from a Type 2 to a Type 1 retailer. The electricity supplied information for the time of the transition is for a complete month, even if some of the period was for prior to the changeover date. This will matter will not be corrected by the revision process.

Comparison between Submitted Volumes and Electricity Supplied



Non-compliance	Description
<p>With: Clause 15.7 of part 15</p> <p>From/to: 01/09/16 to 31/05/17</p>	<p>Electricity supplied data incorrect.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Strong</p> <p>Breach Risk Rating: 1</p>
Audit Risk Rating	Rationale for audit risk rating

Low	<p>The controls are strong and these issues were both identified by Switch Utilities through conducting a comparison between billed and submission totals.</p> <p>There is no effect on settlement because this information is used as an indicator, therefore the audit risk rating is low.</p>	
Actions taken to resolve the issue	Completion date	Remedial action Status
<p>As noted by the Auditor, we identified this problem early in our operation as being caused predominantly by customer networks where we receive costs at the customer network gate, but perform no billing at the gate ICP.</p> <p>We modified our system earlier in the year to collect down-stream customer billing from the non-market reconciled connections and aggregate it up to the gate for provision in the submission files, and have observed that this corrects the discrepancy through revision.</p> <p>There is also a minor discrepancy during the period of transition from Type 1 to Type 2 which is caused by the fact that part of the month relates to when we owned the ICP as a retail participant, and part of the month relates to when we owned the ICP indirectly through a third party retailer. This only impacts the months from approximately August 2016 to January 2017 as we completed the transition, and cannot reasonably be corrected because the billing data cannot be reasonably separated between the two ownerships as the billing overlaps both ownerships (we did genuinely bill the amounts submitted, it just happens that some of that billing volume was reconciled elsewhere).</p> <p>We believe that as this does not impact any moving-forward submissions that this has effectively been cleared and are otherwise able to demonstrate accuracy of our submissions during this period to the Auditor.</p>	Cleared	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	

11.4 HHR Aggregates Information Provision to the Reconciliation Manager (Clause 15.8)

A retailer or direct purchaser (excluding direct consumers) must deliver to the reconciliation manager its total monthly quantity of electricity supplied for each half hourly metered ICP for which it has provided submission information to the reconciliation manager, including:

15.8(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period

15.8(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.

Audit Observation

I checked variances between revisions for the aggregates file and I checked the ICPMISS report to identify any potential errors. All variances were evaluated. I checked HHR data in source files against totals in the aggregates file to confirm the process for file creation.

Audit Commentary

The HHR database is designed to prepare a HHR Aggregates file at ICP level based on submission information.

Clause 15.8 states that the aggregates file should contain electricity supplied information rather than submission information and electricity supplied information is defined as shown below:

electricity supplied means, for any particular period, the information relating to the quantities of **electricity** supplied by **retailers** across **points of connection** to **consumers**, sourced directly from the **retailer's** financial records, including quantities—

- (a) that are metered or unmetered; and
- (b) supplied through normal **customer** supply and billing arrangements; and
- (c) supplied under sponsorship arrangements; and
- (d) supplied under any other arrangement

This differs from the Reconciliation Manager Functional Specification. In Section 3 of the Reconciliation Manager Functional Specification, HHR Aggregates information is described as: “...*HHR submission information that is aggregated per ICP for the whole month (not half-hourly)*”, which suggests an intention that this information should be sourced from submission information not electricity supplied information, which is covered by clause 15.7.

Type of information that is submission information	Description	Source	Classification in this document
information	electricity supplied information.		supplied
Monthly half-hour ICP aggregates	This is equivalent to the HHR submission information that is aggregated per ICP for the whole month (not half-hourly).	Purchasers (excluding direct consumers)	Monthly half-hour ICP aggregates

Data from the aggregates file is used to support other reporting by the Reconciliation Manager and will be of little value if it is based on Electricity Supplied data rather than submission data. Electricity Supplied data has a one month offset and invoicing is not required to occur within any specific timeframes.

Whilst the Code clearly states this file should be derived from financial records, I recommend Switch Utilities liaises with the Authority regarding a Code change which will allow for the aggregates files used in the industry to remain unchanged.

The check of source data against totals in the aggregates file did not find any discrepancies.

A check of the January and February 2017 files for the day-4 submission compared to the 3-month revision showed that there were some differences for some ICPs. Some of the differences were explainable due to backdated registry changes or estimates being replaced by actual data. Four ICPs had large differences, totalling 163,762 kWh because the total in the day-4 file was 232,032 but should have been 68,270. This was caused by a duplication of channels issue in the system, which was identified by Switch Utilities' validation processes. One issue that was not identified by validation was that for ICP 1001136673LC11F for January 2017, where only the generation volume was included in the HHR aggregates file and it was included as load. The figure in the day-4 file was 39,291 but the 3-month file had 1,004. The HHR vols file was correct for both revisions.

Non-compliance	Description	
<p>With: Clause 15.8 of part 15</p> <p>From/to: 01/01/17 to 28/02/17</p>	<p>Aggregates file contains submission information. Incorrect totals for some ICPs due to a duplication of channels issue. One ICP had generation submitted as load and the load was not submitted.</p> <p>Potential impact: Medium Actual impact: Low Audit history: None Controls: Moderate Breach Risk Rating: 2</p>	
Audit Risk Rating	Rationale for audit risk rating	
Low	<p>Controls are in place but they did not identify all of the issues present, so the rating is moderate. The aggregates file is used for reporting not for settlement so the impact is considered minor, therefore the audit risk rating is low.</p>	
Actions taken to resolve the issue	Completion date	Remedial action Status

<p>We have already lodged a Code Change proposal with the authority in relation to the incorrect drafting of retailers financial records vs. submission information. The Reconciliation Manager confirmed that they do require submission information for their purposes and the provision of any other data would cause issues for the reconciliation process.</p> <p>As noted above, the issue with submissions in Day 4 was identified through our validation processes and corrected prior to the audit.</p> <p>We have built a correction to our process in relation to one ICP which had both import and export flow – the underlying problem here was that the Metering Equipment Provider’s registry configuration records only a single 7304 channel, and so the reconciliation process expects only a single stream of data, but in practice the Metering Equipment Provider provided two streams of data in separate files against a single channel and the system presumes that this is intended as a “correction” of the previous stream and overwrote the first import.</p> <p>This is a particularly unusual (and potentially incorrect) metering configuration but the process has been updated to look at the flow direction flag in addition to the meter serial number and ICP identified when determining whether to treat data as overwritten vs. an additional stream.</p>	Cleared	Identified
<p>Preventative actions taken to ensure no further issues will occur</p>	<p>Completion date</p>	
<p>The above issue was made also impacted by the fact this was an issue from the first submission so the month-to-month comparison validation did not identify the discrepancy. We now also compare our volumes against our Salesforce Annual Expected kWh which is seasonalised down to a monthly number so that we can see whether a submission is within the ballpark of what is expected as the submission value for a given month based on information collected at the point of sale.</p>	Cleared	

12. Submission Computation

12.1 Daylight Saving Adjustment (Clause 15.36)

The reconciliation participant must provide submission information to the reconciliation manager that is adjusted for NZDT using one of the techniques set out in clause 15.36(3) specified by the Authority.

Audit Observation

The daylight saving process was observed and a HHR vols file for the change to NZDT was examined.

Audit Commentary

Two issues were identified by the checks. Data from Metrix is not adjusted for daylight saving and Switch Utilities thought it was, so the revision process will need to be used to correct this data for four ICPs. The second issue is that the HHR vols file for the day of daylight savings ending has 50 trading periods as expected but periods 47 and 48 are zeros due to an error with the process. This will also need to be remedied with the revision process because there has been a temporary under submission of approx. 5,000 kWh for those two trading periods.

Non-compliance	Description	
<p>With: Clause 15.36 of part 15</p> <p>From/to: April 2017</p>	<p>Incorrect daylight saving adjustment.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Moderate</p> <p>Breach Risk Rating: 2</p>	
Audit Risk Rating	Rationale for audit risk rating	
Low	<p>The controls identified this matter but not in time to make the corrections on day 13, so the controls are rated as moderate.</p> <p>Settlement is affected by 0.1% which is considered minor, therefore the audit risk rating is low.</p>	
Actions taken to resolve the issue	Completion date	Remedial action Status

<p>In relation to the Metrix data, we had incorrectly understood from our communications with Metrix that the data they provided for smart meter LP sites was daylight savings adjusted when it ultimately was not and this was only identified at the point of daylight savings change. As our systems were not configured to daylight savings adjust volumes there was no immediate resolution and further manual correction had to be made.</p> <p>Upon identifying the issue, we directed Metrix to install true-time of use metering, and the submission information is now provided by EDMI as certified and daylight-savings adjusted EIEP3 data. We have manually corrected the historic submission information for the period prior to the meter change to correct that historic submission information, but there is no expected to be any material value to the shift of volume by two time periods.</p> <p>With respect to the 47/48 TP error, unfortunately this was not identified at the time due to the fact this was the first time we had performed daylight savings adjustment in that system and the validations were not adequate. However, we did identify the issue through post-submission additional analysis and immediately corrected this at the first Day 13 revision so no further issues should occur.</p>	Cleared	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
As above, we have installed alternative metering to resolve the Metrix issue on 4 ICPs and we corrected the code error causing the issue on the 47/48 TP periods immediately.	Cleared	

12.2 Creation of Submission Information (Clause 15.4)

By 1600 hours on the 4th business day of each reconciliation period, the reconciliation participant must deliver submission information to the reconciliation manager for all NSPs for which the reconciliation participant is recorded in the registry as having traded electricity during the consumption period immediately before that reconciliation period (in accordance with Schedule 15.3).

By 1600 hours on the 13th business day of each reconciliation period, the reconciliation participant must deliver submission information to the reconciliation manager for all points of connection for which the reconciliation participant is recorded in the registry as having traded electricity during any consumption period being reconciled in accordance with clauses 15.27 and 15.28, and in respect of which it has obtained revised submission information (in accordance with Schedule 15.3).

Audit Observation

This clause relates to the timeliness of files and whether they include all ICPs. I checked three NSPs with a small number of ICPs to confirm whether all ICPs were included and I checked the ICPMISS reports for the audit period to confirm the completeness of HHR files.

A list of breaches was obtained from the Electricity Authority. There were no breaches for late provision of submission information.

Audit Commentary

No breaches had been recorded for late provision of submission information.

The check of three NSPs confirmed the accuracy of the files and the ICPMISS reports contained some discrepancies but these were all due to registry event changes, which are discussed in earlier sections. Compliance is confirmed.

12.3 Allocation of Submission Information (Clause 15.5)

In preparing and submitting submission information, the reconciliation participant must allocate volume information for each ICP to the NSP indicated by the data held by the registry for the relevant consumption period at the time the reconciliation participant assembles the submission information. Volume information must be derived in accordance with Schedule 15.2.

However, if, in relation to a point of connection at which the reconciliation participant trades electricity, a notification given by an embedded generator under clause 15.13 for an embedded generating station is in force, the reconciliation participant is not required to comply with the above in relation to electricity generated by the embedded generating station.

Audit Observation

Processes to ensure that information used to aggregate the reconciliation reports is consistent with the registry were reviewed and registry validation includes all relevant fields.

The process to ensure that AV080 submissions are accurate was discussed and observed. The process for aggregating the AV080 was examined by checking aggregation for individual NSPs.

A typical sample of five active-vacant ICPs were reviewed to ensure that they are included in the AV080 submission.

The GR170 to AV080 files for three months were compared, to confirm zeroing occurs.

Audit Commentary

The NSP level aggregation check confirmed the accuracy of the factors. A walk-through of the validation process confirmed that all factors are included.

I confirmed that submission occurs for all active-vacant ICPs.

GR170 and AV080 files for October and November 2016 were checked and there were no issues related to not zeroing redundant combinations.

Sound validations are in place to identify issues. The validations include variance between revisions, variance to previous month and difference between billed and submission. Compliance is confirmed.

12.4 Grid Owner Volumes Information (Clause 15.9)

The participant (if a grid owner) must deliver to the reconciliation manager for each point of connection for all of its GXPs, the following:

- *submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period (clause 15.9(a))*
- *revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period. (clause 15.9(b))*

Audit Observation

A registry list with history was reviewed for the audit period to confirm that Switch Utilities has not supplied any GIPs.

Audit Commentary

Examination of the list file found that Switch Utilities has not supplied any GIPs. Switch Utilities is not required to report any grid owner volume information.

12.5 Provision of NSP Submission Information (Clause 15.10)

The participant (if a local or embedded network owner) must provide to the reconciliation manager for each NSP for which the participant has given a notification under clause 25(1) Schedule 11.1 (which relates to the creation, decommissioning, and transfer of NSPs) the following:

- *submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period (clause 15.10(a))*
- *revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period. (clause 15.10(b))*

Audit Observation

Switch Utilities is not a local or embedded network owner.

Audit Commentary

Switch Utilities is not a local or embedded network owner, and is not required to provide NSP submission information.

12.6 Grid Connected Generation (Clause 15.11)

The participant (if a grid connected generator) must deliver to the reconciliation manager for each of its points of connection, the following:

- *submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period (clause 15.11(a))*
- *revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period. (clause 15.11(b))*

Audit Observation

A registry list with history was reviewed for the audit period to confirm that Switch Utilities has not supplied any GIPs.

Audit Commentary

Examination of the list file found that Switch Utilities has not supplied any GIPs. Switch Utilities is not required to report any grid connected generation.

12.7 Accuracy of Submission Information (Clause 15.12)

If the reconciliation participant has submitted information and then subsequently obtained more accurate information, the participant must provide the most accurate information available to the reconciliation manager or participant, as the case may be, at the next available opportunity for submission (in accordance with clauses 15.20A, 15.27, and 15.28).

Audit Observation

AV080 and AV110 submission dates and times were checked, to confirm that revised submissions are provided at the next available opportunity. Where revised submissions were not provided, I reviewed the data to confirm whether there had been any changes from the previous submission.

Corrections were reviewed in section 8.1.

Audit Commentary

Review of submissions confirmed revisions were submitted as expected. Evidence was observed of revised consumption information where changes were made. Some further revisions are required to be sent during the next revision.

Corrections were reviewed in section 8.1.

Compliance is confirmed.

12.8 Permanence of Meter Readings for Reconciliation (Clause 4 Schedule 15.2)

Only volume information created using validated meter readings, or if such values are unavailable, permanent estimates, has permanence within the reconciliation processes (unless subsequently found to be in error).

Volume information created using estimated readings must be subsequently replaced at the earliest opportunity by the reconciliation participant by volume information that has been created using validated meter readings or permanent estimates by, at the latest, the month 14 revision cycle.

A permanent estimate may be used in place of a validated meter reading, but only if, despite having used reasonable endeavours; the reconciliation participant has been unable to obtain a validated meter reading.

Audit Observation

14 month revisions have not yet been prepared because Switch Utilities had not been operating for that length of time, so I checked the system and documentation to ensure compliance will be achieved in future.

Audit Commentary

Systems and processes are in place to identify ICPs where estimates need to be made permanent at 14 months. Compliance is confirmed.

12.9 Creation of Submission Information (Clause 2 Schedule 15.3)

If a reconciliation participant prepares submission information for each NSP for the relevant consumption periods in accordance with the Code, such submission information must comprise the following:

- half hour volume information for each ICP notified in accordance with clause 11.7(2) for which there is a category 3 or higher metering installation (clause 2(1)(a))*
- for each ICP about which information is provided under clause 11.7(2) for which there is a category 1 or category 2 metering installation (clause 2(1)(b)):*
 - half hour volume information for the ICP; or*
 - non-half hour volumes information calculated under clauses 4 to 6 (as applicable).*
- unmetered load quantities for each ICP that has unmetered load associated with it derived from the quantity recorded in the registry against the relevant ICP and the number of days in the period, the distributed unmetered load database, or other sources of relevant information (clause 2(1)(c))*
- to create non half hour submission information a reconciliation participant must only use information that is dependent on a control device if (clause 2(2)):*
 - (a) the certification of the control device is recorded on the registry; or*
 - (b) the metering installation in which the control device is location has interim certification.*
- to create submission information for a point of connection the reconciliation participant must apply to the raw meter data (clause 2(3)):*
 - for each ICP, the compensation factor that is recorded in the registry (clause 2(3)(a))*
 - for each NSP the compensation factor that is recorded in the metering installations most recent certification report (clause 2(3)(b)).*

Audit Observation

The registry list with history was reviewed for the audit period to confirm that Switch Utilities supplies:

- NHH information
- HHR information

- Generation information under the PV1 profile
- Unmetered load.

The accuracy of submission information was checked in numerous sections, plus I checked the accuracy of generation and unmetered submissions.

Audit Commentary

The following issues were found with the accuracy of submission information:

1. ICP 1001136673LC11F has generation as well as load, but the generation is not submitted.
2. Over submission of HHR data occurred in January and February 2017 due to a duplication of channels issue. The over submission for January was 163,762.
3. Under submission of 5,000 kWh for April 2017 due to a daylight savings error.
4. Under submission for one day for NHH ICPs where forward default estimates are present.

Non-compliance	Description	
With: Clause 2 of schedule 15.3 From/to: 01/01/17 to 30/04/17	Incorrect submission information. Potential impact: Medium Actual impact: Medium Audit history: None Controls: Moderate Breach Risk Rating: 4	
Audit Risk Rating	Rationale for audit risk rating	
Medium	Controls are in place and they identified the channel duplication issue, but not the issue of generation not being submitted. There was a moderate effect on settlement, therefore the audit risk rating is medium.	
Actions taken to resolve the issue	Completion date	Remedial action Status
Item 1: Refer to comments in Section 11.4 Item 2: Refer to comments in Section 11.4 Item 3: Refer to comments in Section 12.1 Item 4: Refer to comments in	See relevant sections	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	

12.10 Historical Estimates and Forward Estimates (Clause 3 Schedule 15.3)

For each ICP that has a non-half hour metering installation, volume information derived from validated meter readings, estimated readings, or permanent estimates must be allocated to consumption periods using the following techniques to create historical estimates and forward estimates (clause 3(1)).

Each estimate that is a forward estimate or a historical estimate must clearly be identified as such (clause 3(2)).

If validated meter readings are not available for the purpose of clauses 4 and 5, permanent estimates may be used in place of validated meter readings (clause 3(3)).

Audit Observation

Review six AV080 submissions for revisions 1 to 7, to confirm that historic estimates are included and identified.

Permanence of meter readings is reviewed in section 12.8. The methodology to create forward estimates is reviewed in section 12.11.

Audit Commentary

I reviewed nine AV080 submissions for a diverse sample of months and revisions and confirm that forward and historic estimates are included, and identified as such. Compliance is confirmed.

12.11 Historical Estimate Process (Clause 4 and 5 Schedule 15.3)

The methodology outlined in clause 4 of Schedule 15.3 must be used when preparing historic estimates of volume information for each ICP when the relevant seasonal adjustment shape is available.

If a seasonal adjustment shape is not available, the methodology for preparing an historical estimate of volume information for each ICP must be the same as in clause 4, except that the relevant quantities kWh_{Px} must be prorated as determined by the reconciliation participant using its own methodology or on a flat shape basis using the relevant number of days that are within the consumption period and within the period covered by kWh_{Px}

Audit Observation

To assist with determining compliance of the Historical Estimate (HE) processes, Switch Utilities was supplied with a list of scenarios, and for some individual ICPs a manual HE calculation was conducted, and compared to the result from Switch Utilities' system. Where scenarios were not present, they were created in the test system to confirm compliance.

Audit Commentary

Switch Utilities provided examples of historic estimate calculations, which were reviewed. I found that correct shape files had been applied and the calculations were correct. Compliance is confirmed.

Test	Scenario	Test expectation	Result
A	ICP becomes Inactive part way through a month.	Consumption is only calculated for the Active portion of the month.	Compliant (test)
B	ICP becomes Active then Inactive within a month.	Consumption is only calculated for the Active portion of the month.	Compliant (test)
C	ICP becomes Inactive, then Active, then Inactive again within a month.	Consumption is only calculated for the Active portion of the month.	Compliant (test)
D	ICP becomes Active part way through a month	Consumption is only calculated for the Active portion of the month.	Compliant (test)
E	Continuous ICP has a reading in the previous and subsequent months but no reading in the month of submission	Consumption is apportioned to the correct months. Readings are applied to the end of the day.	Compliant (test)
F	Continuous ICP has a reading within the month	Consumption is apportioned to the correct months. Readings are applied to the end of the day.	Compliant
G	Network/GXP/Connection (POC) alters partway through a month.	Consumption is separated and calculated for the separate portions of where it is to be reconciled to.	Compliant
H	ICP switches in part way through a month.	Consumption is calculated to include the 1st day of responsibility.	Compliant
K	ICP switches out part way through a month.	Consumption is calculated to include the last day of responsibility.	Compliant
L	Unmetered load for a full month	Consumption is calculating based on daily unmetered kWh for full month.	Compliant (test)
M	Unmetered load for a part month	Consumption is calculating based on daily unmetered kWh for active days of the month.	Compliant
N	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers.	Compliant

12.12 Forward Estimate Process (Clause 6 Schedule 15.3)

Forward estimates may be used only in respect of any period for which an historical estimate cannot be calculated.

The methodology used for calculating a forward estimate may be determined by the reconciliation participant, only if it ensures that the accuracy is within the percentage of error specified by the Authority.

Audit Observation

The process to create forward estimates was reviewed.

Forward estimates were checked for accuracy by analysing the GR170 file for variances between revisions over the audit period.

Audit Commentary

Forward estimates for new ICPs are based on the units per day obtained at sign up from customers or from CS files. Where this information is not available, forward default estimates are used or where there is history a daily average based on the previous read to read period is used. Variations between revisions are monitored at a high level to ensure estimates are as accurate as possible.

There were two issues present during the audit period. The first is that when a forward default estimate is used, the first day is not included in the calculation. This is recorded as non-compliance in Section 12.9. The second issue is that the forward default estimate figure, based on residential consumption, was also used for commercial customers, leading to large differences in consumption between revisions. These differences were not outside the allowable threshold for any balancing areas, so compliance is confirmed.

12.13 Compulsory Meter Reading After Profile Change (Clause 7 Schedule 15.3)

If the reconciliation participant changes the profile associated with a meter, it must, when determining the volume information for that meter and its respective ICP, use a validated meter reading or permanent estimate on the day on which the profile change is to take effect.

The reconciliation participant must use the volume information from that validated meter reading or permanent estimate in calculating the relevant historical estimates of each profile for that meter.

Audit Observation

A registry list with history was reviewed for the audit period to confirm that Switch Utilities has only used the RPS, HHR and PV1 profiles during the audit period.

Audit Commentary

Examination of the list file found that Switch Utilities has only used the RPS, HHR and PV1 profiles, and there have been no profile changes. In the event of a profile change, Switch Utilities will use a validated meter reading or a permanent estimate on the day that the change is effective.

13. Submission Format and Timing

13.1 Market Administrator Meter Reading Reports (Clauses 8 & 9 of Schedule 15.2)

Provision of meter read frequency reports to the Authority, no later than 20 business days after the end of the month.

Audit Observation

I checked whether the meter reading reports had been prepared and submitted in accordance with this clause.

Audit Commentary

These reports were not submitted for most of the audit period and Switching Utilities have only just started sending them.

Non-compliance	Description	
With: Clauses 8 and 9 of Schedule 15.2 From/to: 01/11/16 to 31/12/16	Meter reading frequency reports were not submitted prior to June 2017. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach Risk Rating: 1	
Audit Risk Rating	Rationale for audit risk rating	
Low	Little impact on other participants. Good controls are now in place to ensure that reports are submitted on time.	
Actions taken to resolve the issue		Completion date
We were unable to submit the reports as an unexpected result of the transition of systems, but this has now been resolved and reports are now being submitted.		Cleared
Preventative actions taken to ensure no further issues will occur		Completion date
		Cleared

13.2 Provision of Submission Information to the RM (Clause 8 Schedule 15.3)

Submission information provided to the reconciliation manager must be aggregated to the following level:

- NSP code (clause 8(a))
- reconciliation type (clause 8(b))
- profile (clause 8(c))
- loss category code (clause 8(d))
- flow direction (clause 8(e))
- dedicated NSP (clause 8(f))
- trading period for half hour metered ICPs and consumption period or day for all other ICPs (clause 8(g)).

Audit Observation

The process to ensure that AV080 submissions are accurate was evaluated by checking three NSPs with a small number of ICPs to ensure the totals were correct and accurate. I also checked the ICPMISS reporting to identify any aggregation issues.

Audit Commentary

AV080 and AC090 files are aggregated correctly. Compliance with the requirement to use correct aggregation factors is confirmed.

13.3 Reporting Resolution (Clause 9 Schedule 15.3)

When reporting submission information, the number of decimal places must be rounded to not more than two decimal places.

If the unrounded digit to the right of the second decimal place is greater than or equal to five, the second digit is rounded up, and

If the digit to the right of the second decimal place is less than five, the second digit is unchanged.

Audit Observation

Aggregation of the AV080 and AV090 was reviewed and as part of these checks, I verified that the data provided for submission was correctly rounded.

Audit Commentary

Submissions are correctly rounded to two decimal places. Compliance is confirmed.

13.4 Historical Estimate Reporting to RM (Clause 10 Schedule 15.3)

By 1600 hours on the 13th business day of each reconciliation period the reconciliation participant must report to the reconciliation manager the proportion of historical estimates per NSP contained within its non-half hour submission information.

The proportion of submission information per NSP that is comprised of historical estimates must (unless exceptional circumstances exist) be:

- at least 80% for revised data provided at the month 3 revision (clause 10(3)(a))*
- at least 90% for revised data provided at the month 7 revision (clause 10(3)(b))*
- 100% for revised data provided at the month 14 revision. (clause 10(3)(c))*

Audit Observation

The timeliness of submissions of historic estimate was reviewed in section **12.2**.

I reviewed GR170 reports for the entire audit period to confirm that historic estimate requirements were met.

Audit Commentary

The quantity of historical estimates is contained in the submission file and is not a separate report. Historic estimate targets were met for most revisions; the only exceptions were October and November 2016 for PEN0221, where the three month revisions had 38% and 65% HE respectively. This was caused by four ICPs in one building where comms was not available and readings were not obtained.

Non-compliance	Description	
<p>With: Clause 10 of Schedule 15.3</p> <p>From/to: 01/10/16 to 30/11/16</p>	<p>Historic estimate targets were not met for all revisions.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Strong</p> <p>Breach Risk Rating: 1</p>	
Audit Risk Rating	Rationale for audit risk rating	
Low	<p>Strong controls are in place. There is a schedule listing all ICPs where issues exist, including meter reading access and comms issues.</p> <p>The impact on settlement is minor, therefore the audit risk rating is low.</p>	
Actions taken to resolve the issue	Completion date	Remedial action Status
<p>We are continuing to work through sites without access for readings with customers, through a letter and calling process.</p> <p>Where readings are not obtained by Month 14 Permanent Estimates will be applied.</p>	To be confirmed in further correspondence with EA	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	

14. Conclusions

Switch Utilities has increased their customer base considerably in the audit period and as expected they have identified some areas for improvement. 21 non-compliance issues were identified by the audit. Seven relate to switching and four relate to registry updates. The most important matters are those related to incorrect submission information, which are as follows:

1. ICP 1001136673LC11F has generation as well as load, but the generation is not submitted.
2. Over submission of HHR data occurred in January and February 2017 due to a duplication of channels issue. The over submission for January was 163,762.
3. Under submission of 5,000 kWh for April 2017 due to a daylight savings error.
4. Under submission for one day for NHH ICPs where forward default estimates are present.

Resolution of these matters is either complete or in progress.

In general, the controls in place are moderate to strong and most of the issues found had already been identified by Switch Utilities.

The breach risk rating total is 38, which results in a recommended audit frequency of 12 months.

The matters raised are shown in the tables below:

Table of Non-Compliance

Subject	Section	Clause	Non compliance	Breach risk rating	Audit History	Controls	Remedial Action
Audit trails	2.3	21 of schedule 15.2	Audit trail not complete for HHR changes.	2	None	Moderate	Identified
Changes to registry information	3.3	10 of schedule 11.1	Registry information not provided within 5 business days of change.	2	None	Moderate	Identified
Provision of registry information	3.5	9 of schedule 11.1	Some late changes to Active Some late MEP notifications.	2	None	Moderate	Identified
ANZSIC codes	3.6	9(1)(k) of schedule 11.1	3 of 20 incorrect ANZSIC codes.	2	None	Moderate	Identified
Management of Active status	3.8	17 of schedule 11.1	One incorrect Active status.	1	None	Strong	Identified

Subject	Section	Clause	Non compliance	Breach risk rating	Audit History	Controls	Remedial Action
Switching	4.2	3 of schedule 11.3	AN codes of AA used for 4 of 6 files where AD should have been used. 3 of these were TR switches.	2	None	Moderate	Identified
	4.3	5 of schedule 11.3	14 late CS files.	1	None	Strong	Identified
	4.4	Clause 6 of schedule 11.3	2 late RR files.	1	None	Strong	Identified
	4.8	10 of schedule 11.3	AN codes of AA used for 4 of 6 files where AD should have been used. 1 of these was a MI switch. 1 late AN	2	None	Moderate	Identified
	4.10	11 of schedule 11.3	11 late CS files.	2	None	Moderate	Identified
	4.14	16 of schedule 11.3	5 late CS files.	2	None	Moderate	Identified
	4.15	17 of schedule 11.3	3 late NW files.	1	None	Strong	Identified
Interrogate meters once	6.8	7(1) and 7(2) of Schedule 15.2	No process for getting meter readings during the period of supply.	3	None	Weak	Identified
AMI events	9.6	17 of schedule 15.2	AMI event information not routinely monitored. No event information from ARC.	2	None	Moderate	Identified
ICP days	11.2	15.6 of part 15	ICP days calculation inaccurate where reads are not present.	2	None	Moderate	Identified
Electricity supplied	11.3	15.7 of part 15	Electricity supplied data incorrect.	1	None	Strong	Identified

Subject	Section	Clause	Non compliance	Breach risk rating	Audit History	Controls	Remedial Action
HHR aggregates	11.4	15.8 of part 15	Aggregates file contains submission information. Incorrect totals for some ICPs due to a duplication of channels issue. One ICP had generation submitted as load and the load was not submitted.	2	None	Moderate	Identified
Daylight saving	12.1	15.36 of part 15	Incorrect daylight saving adjustment.	2	None	Moderate	Identified
Submission accuracy	12.9	2 of schedule 15.3	Incorrect submission information.	4	None	Moderate	Identified
Meter reading reports	13.1	8 and 9 of Schedule 15.2	Meter reading frequency reports were not submitted prior to June 2017.	1	None	Strong	Cleared
HE targets	13.4	10 of Schedule 15.3	Historic estimate targets were not met for all revisions.	1	None	Strong	Identified

Table of Recommendations

Subject	Section	Clause	Recommendation for Improvement	Remedial Action
			Nil	

Signed by:

A handwritten signature in blue ink, appearing to be 'Steve Woods', is written on a light-colored background.

Steve Woods
Veritek Limited
Electricity Authority Approved Auditor

Signed by:

Sean Campbell
Business Services Manager